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ORIGINAL LECTURES.

LOCOMOTOR ATAXIA.

A Course of Three Lectures delivered before the Cincinnati Medical Society.

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LECTURE I.

SYMPTOMATOLOGY.

GENTLEMEN: The frequent occurrence of locomotor ataxia, the importance of its early recognition, and the many interesting physiological and pathological questions involved, will, I trust, be sufficient justification for speaking rather fully on the subject. Yet I do not propose to treat it exhaustively. For instance, some trophic changes, diseases of joints, affections of bones, finger-nails, etc., which have been largely dwelt upon of late years; certain symptoms on the part of the central nervous system, as hemiplegias, paraplegias of short duration, will be passed by without further notice. For, though of great interest in themselves, they do not help us to a clear idea of this disease; their pathology is obscure, and their relationship with locomotor ataxia not fully determined. But I wish rather to give a clear description of this disease, bringing into prominence practical things, especially such as are of great diagnostic value, and to dwell at some length on the physiological and pathological questions involved. It is true that in the latter we shall find far more questions entirely unanswered than facts definitely ascertained. But for purposes of scientific progress it is always important to know what are the present limits of our knowledge, what problems are yet unsolved or to be solved.

Locomotor ataxia may be briefly described as clinically represented by characteristic lightning-like pains, sense of numbness or formication in the legs, peculiar perversion of tactile sensation in the soles of the feet, so that the ground does not feel natural, anæsthesia, ocular paralysis, disturbances of the genital functions, of the bladder, rectum, and other viscera, but most prominently a loss of muscular coördination, an ataxic gait. As a pathological substratum for these symptoms, we find degenerative changes chiefly in the posterior portions of the cord.

We will begin with the symptomatology, as we shall later be able to take up with greater interest the physiological and pathological questions. In the beginning the most prominent symptoms are pains, I might say characteristic pains, most frequently in the back and legs. These pains are very sudden in their onset, so sudden that they are usually termed lightning pains, and are described as of a boring, pressing, tearing, or shooting character. They occur sometimes in limited portions of the skin, more frequently in the deeper parts, the calves of the legs, joints, bones, etc. They often persist in one part, and become very agonizing in intensity. These pains come in paroxysms, which may be of only a few seconds or minutes duration, or continue for hours or days, each paroxysm being composed of a large number of single pains of the kind already described. The free intervals are also of various duration, sometimes only a few hours or days, sometimes many months intervene before a recurrence of the paroxysms. These are also of various degrees of severity. In some they are so mild that it is difficult for the physician to elicit an account of them in taking the history, the patient looking upon them as mere rheumatic pains that require no mention. In others, the pains are so intense that they make existence a constant torture. Changes in weather, mental excitement, etc., often have a deleterious influence, bringing on or increasing the severity of the paroxysm. Though, as already mentioned, these pains most frequently occur in the back and legs, they sometimes occur, then usually at a later period, in the upper extremities, even in the face or occipital region. They are generally the first symptoms of the disease, and may occur many years before the development of ataxia. They usually persist during the whole duration of the disease, though not infrequently they become milder at a later period and even disappear altogether.

Though they are described differently by different individuals, there is that about them, their sudden onset, their paroxysmal occurrence, etc., which usually enables us to recognize them easily. Of the other anomalies of sensation, we may mention first what is termed girdle sensation, a sense of constriction or painful pressure about the waist. This is very frequently present. There is often a sense of numbness, of formication, or of coldness or heat about the legs moving from part to part. But the most noticeable of these parasthesias is a peculiar perversion of the tactile sensation of the soles, so that the ground or floor does not feel hard as usual, but one feels as though walking upon some yielding surface, velvet, or cork, or bladders of water.

One of the most common symptoms is anæsthesia, so that the touch, pinching, etc., are not so distinctly felt or are not properly localized. This, though perhaps the most common sensory manifestation does not usually appear as early as the symptoms previously mentioned. It is often only noticeable when the ataxic symptoms have also appeared. We never find complete anæsthesia, such as often is present in hysteria and in organic disease, destroying the sensory tracts. Sometimes it is so slight that the patient knows nothing of its presence, and it is only detected on the careful physical examination of the physician; again it is so marked that the patient himself calls attention to it. It is usually greater in some parts than in others, as over the soles, calves, in the trunk between the shoulders and in the sacral region, in the upper extremities on the ulnar side of the hands and arms. Some peculiarities of the anæsthesia are deserving of mention. There is often partial anæsthesia, some kinds of sensation being impaired, others not. For instance, the sense of pain is lost while the tactile sensation is unimpaired; this is called analgesia. The opposite is found, tactile sensation is impaired, and the sense of pain is retained. Usually the sense of pressure is earliest lost, while the appreciation of temperature, the ability to distinguish hot and cold, is longest retained. Then there are peculiar anomalies which have been termed retarded and double sensation. If the surface be touched, it is not felt immediately, but only after the lapse of several seconds is the contact observed. Or different kinds of sensation may be conveyed with varying rapidity; one is pricked with a pin, either immediately or after an interval of time the sense of

contact is appreciated, then a few seconds intervene before there is also the sense of pain. There are some other peculiarities of this kind which cannot be dwelt upon here. But the anæsthesia does not alone involve the integument, the deeper parts, muscles, bones, joints, etc., are also thus affected. Probably due to this, we very frequently find that the patient loses knowledge of the position of his limbs. If, when he is in bed and with eyes closed, you place his limbs in strange positions, he can neither tell where they are nor in what posture, and has probably also not felt the passive movements.

We will next mention a symptom allied to the preceding and perhaps also to that which will follow it—ataxia. That is what has been termed Romberg's symptom. While the patient can still walk with no apparent difficulty, if told to stand with closed eyes, he is observed to waver, and, when the condition is well marked, may fall to the ground. This appears to be directly dependent on the anæsthesia. At least Erb mentions that even in cases of ataxia it is never present unless there is also anæsthesia. Indeed, it is sometimes the first indication of the latter, pointing to its presence even when the most careful objective examination leaves the physician in doubt. The symptom may be thus explained. The maintenance of the equilibrium of the erect position is due to our knowledge of our position in space, a knowledge due to the constant centripetal impressions to the sensorium from the periphery through the cutaneous, muscular sensation, vision, etc. When the cutaneous and muscular sensations are impaired, if the vision is also excluded, our knowledge of our position in space becomes obscured, we waver or fall to the ground.

We now approach the most prominent symptom of this disease—that which has given it its name: the loss of muscular coördination; the ataxic gait. We have here the singular anomaly that individual acts can no longer be performed with precision and accuracy, or not at all, while the muscular power upon which they depend is not at all impaired. Previous to the development of the ataxic gait, the patient observes a feeling of heaviness and stiffness in his limbs. He tires easily. He first notices some difficulty in ascending a flight of stairs, in arising from a chair, in suddenly turning around, walking on a smooth floor, etc., all of which difficulties are greater at night. Walking is difficult just after rising in the morning, also changing from a rapid to a slow, or a slow to a rapid gait; while at this time, in an ordinary even gait by daylight, nothing peculiar is observed. The ataxic gait is first noticeable through a certain irregularity or awkwardness in its performance. When it becomes well marked, its peculiarities are observed by every one. The feet are usually raised higher than necessary, are thrown outward and forward in a jerky manner, and the heels fall in a stamping manner to the ground. The knees are held stiff, and the eyes are constantly directed toward the feet.

The ataxia, though most marked and most frequent in the lower extremities, occurs sometimes, though generally at a later period, in the upper extremities, and even in muscles of the trunk and face. In the hands it is first observed in performing delicate actions, picking up a pin, writing, etc. The ataxic movements are always most marked in the dark or when the eyes are closed. The ataxic manifestations vary greatly as regards the rapidity of their development. Sometimes, very shortly after they are first observed, they already become excessive, but more frequently years pass before the ataxia becomes marked. At times it improves considerably, the improvement being of some duration; again it becomes suddenly worse through the effects of cold or the like. Ataxia is not the only muscular symptom; very frequently there is considerable muscular weakness in the earlier stages, and at a later period true paralysis is no uncommon sequel.

We will now speak of a number of visceral symptoms. The genital functions are often affected. In the beginning there is often an increase of sexual appetite, but when the disease is advanced, the sexual functions and appetite are usually lost. There is often a slight disturbance of the bladder, slight incontinence, or slight retention; the latter should never be overlooked, as it may cause serious cystitis. Rectal symptoms are less common, most frequently a slight anæsthesia, so that the feces escape without the knowledge of the patient. But paroxysms of pain of a spasmodic character, both in the rectum and in the bladder or urethra, are not uncommon symptoms, and are probably allied in character to the lightning pains of this disease. Pains, probably of the same nature, attack also other internal organs, so that we find paroxysms of gastralgia, nephritic colic, etc.; of these the most common and distressing are the paroxysms of gastralgia. These are sometimes very severe, and may be accompanied by vomiting, vertigo, and even temporary diminution of urine and albuminuria. I was called to such a case recently in the middle of the night, where no history excepting that of the present attack of gastralgia could be obtained. But when the patient called at my office some days later, a casual examination was sufficient to reveal the presence of the well-developed disease. He then informed me that he had been under medical treatment for some years for rheumatic pains.

We now approach a series of symptoms, which, to the untutored, appears less noticeable as symptoms of spinal disease, but which has the highest diagnostic value, and first the ocular symptoms. Paralysis of the external or internal muscles of the eye, causing ptosis, strabismus of various kinds, irregularity of the pupils, etc., belong to the most common symptoms of locomotor ataxia. They are present in more than two-thirds of all the cases of that disease, and, further, they belong usually to the initial symptoms. They are frequently of temporary duration. Strabismus or the like will occur at an early period, disappear after a few weeks or months, perhaps recurring at various periods to again disappear, though when the paralyses occur at later periods, they are likely to remain permanently. I do not wish to dwell longer upon these ocular paralyses further than to mention specially one form, that is what is termed spinal myosis or Argyle-Robertson phenomenon. Here the pupils are much contracted, they do not respond to light, neither become larger in a darkened chamber, nor contract when a bright light is brought before them, but do contract during the act of accommodation. I mention this symptom because it is almost pathognomonic of this disease. I do not know of its occurrence in any other disease.

The other ocular symptom I shall mention is one especially noticeable, as it is the greatest affliction with which the patient is visited—amblyopia or amaurosis. This is less frequently found than the other ocular symptoms, but it is frequently present. Cyon found it in sixty of two hundred and three cases; Erb in eight of seventy cases. It is also frequently an early symptom. I have seen one case in which it preceded the ataxia fully ten years. The vision generally begins to fail at the periphery, central vision being longest retained. It varies very greatly in the rapidity of its development, sometimes complete blindness occurring soon after the first impairment of vision, more frequently being slow in its development. Some believe that its progress is sometimes checked by hypodermic injections of strychnia. The amaurosis is due to degenerative changes in the optic nerve, apparently quite like those we will later have occasion to observe in the posterior columns of the spinal cord. The disease begins in the nerves,

and extends backward into the optic tracts, sometimes reaching the corpora quadrigemina.

The symptom of which we will now speak is one of prime importance in the diagnosis: it is the condition of the tendon reflexes, the absence of the patellar tendon-reflex. That a blow upon the ligamentum patellæ would cause a sudden contraction of the quadriceps femoris has long been known, but it was only after Westphal pointed out that this phenomenon cannot be elicited in cases of locomotor ataxia that it began to assume a clinical importance. Since then, very much attention has been paid to the subject. Much has been experimented and written about the nature of this phenomenon. This question, not yet settled, will not detain us here; but its clinical value is a subject of so much importance that I may be pardoned for dwelling upon it at some length. This phenomenon can be almost always elicited in health. Berger examined over fourteen hundred persons, and failed to detect it in less than two per cent. of the cases. Eulenberg examined a large number of adults and children, and failed to find it in about five per cent. of all the cases. Westphal claimed, until very recently, that he never failed to find it in healthy persons. I have myself examined a large number of healthy persons, and have never failed to find it in adults. In one, a young man of about eighteen years of age, I succeeded in obtaining it at some times, and failed at others. Why this difference, I do not know. Usually it is very easy to elicit this phenomenon; but when it is difficult, it will not suffice to merely examine the patient in the ordinary manner, that is, when one knee is thrown over the other, to give a tap on the tendons; but one must rather lay the knees bare, have the patient sitting upon a table, so that the feet swing freely, and then tap upon every part of the ligamentum patellæ. Only after a fair trial of this kind can it be said that the patellar tendon-reflex is absent.

Westphal believes that this phenomenon is always absent in locomotor ataxia. Some physicians of prominence have believed that they found it still present in typical cases of this disease. I have seen one case of very excessive ataxia, where the patellar tendon-reflex was even exaggerated. But this case, in its entire history as well as in the special appearance of the ataxia, was quite different from ordinary cases of locomotor ataxia. But even though this phenomenon be sometimes present in the disease, and though it be occasionally absent in healthy persons, each of these are such rare occurrences as scarcely to detract from its diagnostic value. And its value is the greater because its absence is noticed in the early periods of the disease, and is often its first indication.

The latter symptoms mentioned, the ocular manifestations, the absence of the patellar tendon-reflex, should never be forgotten when trying to make a diagnosis in an obscure case. They will often enable us to make a diagnosis early in the disease, and, what is of equal if not of greater value, will often enable us to exclude the existence of this disease. Patients will often come to you with what is termed spinal irritation, neurasthenia, and the like, with flying pains in various parts of the body, feelings of numbness and formication, inability to stand with closed eyes, etc., believing that they are suffering with some organic disease. If you examine carefully into their history, observe that the patellar tendon-reflex is present, that there are no ocular symptoms, none on the part of the bladder or rectum, you can inform such patients with a great degree of assurance that they are not suffering with any organic disease. You thus relieve their minds of a great weight of anxiety, and by removal of causes and proper general treatment may soon restore them to complete health.

I will mention one other set of symptoms—perhaps I should rather say complications—of this disease, that is, the mental symptoms.

Moelli has found mental disease in seventeen of eighty-nine cases of locomotor ataxia. Of these, ten were general paralysis or other dementia, four had delusions of persecution, and three were hypochondriacs. General paralysis is the most frequent complication of this disease. Not infrequently the degenerative changes in the cord of locomotor ataxia develop during the history of general paralysis. But in that case the spinal are obscured by the mental symptoms. When general paralysis develops in a case of locomotor ataxia, it is often slower in its progress and milder in its character than is usual in the typical disease.

Herewith we have mentioned the most prominent symptoms, and though some have been omitted and some but slightly noticed, I believe enough has been said to give a distinct picture of the disease, and to enable one always to make a diagnosis where a diagnosis is possible. And now a few words on the progress and duration of the disease. Usually we have, then, in the earlier stages, lightning pains, girdle sensation, formication and numbness, perverted sensation of soles, ocular symptoms, disturbances of bladder, rectum, and genital functions, and absence of patellar tendon-reflex. This earlier stage, before the appearance of ataxic manifestations, may be of very short or very long duration. Sometimes only a few weeks elapse after the first symptoms are manifested before the ataxia appears. More frequently a year or more intervenes, and sometimes ten, fifteen years, or more. In the second stage, we find the anæsthesia and ataxia. This stage, too, may be of very short or very long—ten or twenty years—duration. The last stage is called the paralytic one, in which there is true paralysis, sometimes atrophy of muscles, sometimes cystitis, decubitus, marasmus, leading to a fatal termination. This stage, like the preceding, may be of indefinite duration. Leyden, in his most recent article on the subject, mentions a case then under observation, which had already been twenty years in what was termed the paralytic stage. In fact, the disease in itself rarely leads to a fatal termination, and yet patients suffering with it do not usually grow old, owing to their being more subject to accidents, and to their having less power to resist intercurrent diseases.

ORIGINAL ARTICLES.

CRUSH OF BOTH LOWER EXTREMITIES, AND TWO COMPOUND DEPRESSED FRACTURES OF THE SKULL;

SIMULTANEOUS AMPUTATION OF LEFT LEG AND RIGHT THIGH; RECOVERY.

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Gottlieb F., æt. 29 years, German, married, admitted May 8, 1883. About three hours before admission, while walking on the railroad, the patient stepped from one track to another, in order to avoid a train moving towards him, only to be struck by a locomotive coming from behind. He was picked up immediately, and brought as soon as practicable to the hospital. A period of about three hours intervened, however, between the time of the accident and that of the examination at the hospital. The examination showed that the left foot was

hanging in shreds, and that the skin was torn off up to the lower third of the external aspect of the leg; the right leg was crushed into a pulp from the foot up to the upper third, the skin being severely contused as far as the middle of this region. Compound depressed fracture at the inner angle of the left orbit through the ciliary ridge, a round, even, cup shaped depression, admitting the end of the index finger. Another fracture, also compound and depressed, at the right frontal prominence. Here the area of depression was larger than the end of one's thumb, and the edges of the contiguous bone were sharp and jagged. Occipital, and the right deltoid regions were severely contused. Slight punctured wound about one inch and a half above the olecranon process on the posterior aspect of the left arm. Patient was conscious; pupils reacted normally, were of normal size and equal on both sides. The patient had recovered sufficiently from the shock to answer intelligently and quickly. Hands warm, and surface of skin had recovered its normal healthy hue and temperature. Pulse of pretty good volume, but rapid and compressible. No attempt had been made, previous to his admission into the hospital to control the hemorrhage, so that the patient had lost a great deal of blood before his arrival, and was fast becoming exsanguinated. The first care after getting him on the table, therefore, was to apply an Esmarch bandage to both extremities. A full dose of morphine was then administered hypodermically, and he was etherized as quickly as possible. While my senior assistant, Dr. Cartmell, amputated the left leg through the lower third by the lateral flap method, I amputated the right extremity through the femoral condyles, as follows: Long oval anterior and short posterior skin flaps were formed, circular division of muscles and tendons, the condyles of femur were sawn slightly obliquely from above downward, then the tendon of the quadriceps femoris was divided from within outwards at its attachment to the patella, leaving only a few external fibres and the sheath. The articular surface of the patella was scraped thoroughly by longitudinal scratches with the knife. After the vessels had been tied and hemorrhage controlled, the patella was drawn down carefully, its articular surface placed in apposition with the sawn extremity of the condyles, and secured in position by two silver wire sutures passed deeply through the flaps and through the fibrous covering and attachments of the patella. A medium-size drainage-tube introduced from one angle to the other through the bottom of the wound; flaps carefully fitted together and held in apposition by catgut sutures. Lister dressing applied to each stump. During the operation the pulse sank once or twice, so that it was necessary to give two or three hypodermics of whiskey and ether. The patient reacted quickly and well, notwithstanding his frightful mutilation. He passed a quiet night, and next morning at 8 A.M. pulse was 90 and temp. normal. At 5 P.M. pulse 96, temp. 102° F. Complained bitterly of pain in the right stump, evidently from the traction of the silver sutures.

May 10.—8 A.M. Pulse 108, temp. 100.6° F. Patient suffering agonies from the silver sutures. Inasmuch as he was becoming very nervous, restless, and weak from the pain, I thought it best to remove the offending sutures. I did so, but just as they were withdrawn the patient gave a sudden start and, notwithstanding firm manual support from above downward, the patella was drawn forcibly upwards about one inch, with evident giving way of pretty firm adhesions. An attempt was made to return it to its former place, but was only successful to the extent of bringing it just below the upper rim of the condyles, where, on account of the terrible pain this manœuvre occasioned, I was fain to leave it after securing it by firm strapping with adhesive plaster strips. At succeeding dressings it was drawn a little further down by adhesive plaster, and finally remained firmly and securely.

12th.—8 A.M. Pulse 102, temp. 105°. This was the highest temperature during the whole after-treatment. It subsided readily after a dose of 1.5 gramme quinine and an enema.

From this time on the recovery was very rapid. The right stump healed without suppuration; the left was retarded, and suppurated from a slough of about three-quarters of an inch of injured skin which had been inadvertently included in the flaps. This healed by granulations (but slowly) afterward.

On the thirteenth day after the operation the patient was allowed to get out of bed for the first time. After this he was up daily in a wheel-chair. The wounds in the head seemed to heal very kindly at first, the smaller one, at the ciliary ridge, indeed had cicatrized in about a fortnight. The other and larger one also did well, and was nearly healed externally, when, on the 8th of June, the patient complained of severe headache and had a slight rigor. The next day an abscess had formed. This was freely incised, evacuating a small quantity of thick pus. An examination with a probe showed the bone still bare, and evidently necrotic at the bottom of this cavity. In the course of the following week flat pieces of dead bone were removed from time to time, until they amounted to a superficial area of perhaps the size of a silver quarter, when granulations soon filled the cavity, and in a short time thereafter it was entirely healed. The exfoliated bone was evidently the outer table of the skull. This abscess caused the only "head symptoms" the patient had during his treatment. He was discharged July 7th. The right stump was so firm and painless that he could easily bear his whole weight on it without inconvenience; the left stump had still a superficial ulcer, very small, at the upper angle of the flaps where the skin had sloughed, but was contracting rapidly. Wounds in head entirely healed.

Remarks.—Though double synchronous amputations are not very rare, the case just narrated being the third the reporter has had in the last eighteen months, the percentage of mortality is so overwhelming that a *successful* case of *uncomplicated* double simultaneous amputation, for a railroad crush, is even worthy of record. As far as I have been able to search, I have found not a single recovery recorded after a synchronous amputation of

both lower extremities together with *two compound depressed fractures of the skull* in the same individual. I believe, therefore, that I have the honor of recording a unique case of physical stamina, and a successful issue of what was certainly one of the gravest of surgical conditions.

Gross[1] gives the credit of the first known case of double synchronous amputation to Dr. Morris, of Quebec, and states that the introduction of these double amputations is due to the surgeons of the hospital to which Dr. M. was attached—Hotel-Dieu. Since Morris' time almost every surgeon of any hospital practice has had occasion to do these multiple operations more than once. Our surgical literature is nevertheless very poor in statistics of these amputations, most authors being content to pass them by with a mere mention of their occasional necessity, and their almost invariable mortality. Dr. John Ashhurst[2] gives a table of eleven cases occurring in his own practice. Of these eleven cases, two successful ones were for frost-bite of the toes, in which only a portion of the feet was removed. The remaining nine cases were for accidents, and of these only two recovered. One of these was the remarkable case of hip-joint amputation and amputation of the other leg below the knee-joint (the case, a boy fifteen years old), for a railroad crush. The same author[3] has collected a list of eight cases of *successful quadruple* amputations, but none of them appears to have been synchronous. Nine cases of *successful triple* amputations are also mentioned by him.[4] The most remarkable of these was a boy thirteen years old, for whom Dr. Koehler, of Schuylkill Haven, Pa., amputated one arm and both legs below the knee.

Besides the unique complication and the happy result in my case, I desire to note the *osteoplastic* operation performed on the right extremity. Though there was not sufficient good skin remaining to permit of an amputation at the knee-joint, it was nevertheless obviously important, for the sake of the man's life, to operate as low down as possible. As the patient was a very poor man, it was more than probable that he would have to depend upon his knee on the left side, and, as much as could be left him, on the right, for locomotion. It was therefore important to equalize the length of the thighs as much as possible. The patella presented itself as a ready expedient to add the necessary increment to the right thigh. Besides, for the proper accomplishment of this "shuffling along," it was necessary to furnish a hard, firm, non-sensitive stump. Making the anterior flap long and the posterior one short would naturally bring the line of cicatrix out of danger from pressure; it remained, then, only to have a firm, painless, bony support at the end of the stump, and the interposition of the patella seemed to fulfil all these conditions. I mentioned that it was necessary to liberate the patella on the third day, and how difficult it was to bring it again into place. Were I to do the operation again, I should cut every fibre of the tendo-quadriceps, thus obviating the torturing pull of the thigh muscles, and assure the stability of the patella.

The method is no new one. Introduced by Gritti in 1857,[1] modified by Stokes some time after, it has been done, according to Dr. Weir,[2] seventy-six times, with a death-rate of about 28.5 per cent. Strictly speaking, the osteoplastic operation which Gritti introduced at this region, was sawing off a thin slice from the articular surface of the patella, and then opposing it to the sawn condyles; but so much difficulty was experienced in keeping the bones in apposition that Stokes[3] modified the operation by dividing the femur just above the condyles, thus leaving less strain for the tendo-quadriceps femoris. It remained. however, for Szymanowski[4] to suggest and to first practise divisions of the tendon after following the Gritti method in other particulars. The operation was further modified in the case just narrated by slightly varying the form of the flap—long oval, instead of the Gritti rectangular anterior flap—but especially by simply *scraping* the articular cartilage, so that sufficient inflammatory action might be excited for the desired union instead of removing it. In this particular case it was done in order to save time, and the idea occurred to me from seeing the late Dr. James R. Wood leave the articular cartilage in his Syme's foot amputations, and having on several occasions proved the efficacy of the scraping in the Syme amputation myself. The advantages of the modified Gritti amputation were, I think, clearly illustrated in this case. Rapidity of healing, beautifully rounded stump, absolutely firm and painless point of pressure for walking or false limb.

Notwithstanding the little confidence surgeons have hitherto shown in this operation, it appears to me that, with the help of antiseptic dressings, the evident theoretical advantages of this method should be more thoroughly tested. That two raw, bony surfaces, closely and smoothly apposed, will unite more quickly than is required for the extremity of the bone to round off and become firm and painless by the conventional "button-forming process," with subsequent calcification, no one will doubt. That a stump formed by the direct union of two such bones will be better rounded and stand more pressure, is also according to reason, notwithstanding Schede's strictures to the contrary. The comparative death-rate is also greatly in favor of the Gritti operation. Dr. Weir's figures, as before stated, show a rate of about 28.5 per cent. of mortality, while the mortality of the ordinary operation at this point is above 40 per cent. There certainly appears much reason for more extended trial of this operation, and in this age of plastic surgery and non-suppurative healing, it behooves an operator to attempt every possible reparation to the unfortunate who loses a limb under his knife.

[1] See Gross' System of Surg.
[2] See Internat. Encyclop. of Surg.
[3] Ibid. [4] Ibid.

[1] Max Schede, in Handbuch der Allgemeinen und Speciellen Chirurgie.
[2] Med. Record, April 12, 1879.
[3] Max Schede in Handbuch der Algemeinen und Speciellen Chirurgie.
[4] Ibid.

Even Pirogoff's operation is still meeting with unqualified condemnation at many surgeons' hands. Still, the many triumphs that every well-qualified operator can show for this, and many similar, operations should stimulate us to attempt greater things in making bones repair one another.

TWO CASES OF EMPYEMA; ONE CURED SPONTANEOUSLY, THE OTHER BY INCISION.

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PROF. MCSHERRY'S elaborate article in No. 20 of your journal induces me to add a sketch of two cases, lately under my treatment, to the literature of the subject.

M. B., a servant girl, was taken sick with symptoms of pleurisy, which shortly led to effusion into the left pleural cavity. A reasonable time having been given to the action of absorbents and blisters, aspiration was resorted to. Much to my astonishment, a pint of *pus* escaped in place of the serum I had expected. (There had been no hectic symptoms.) The pus accumulating again, the aspirator was resorted to the second time, with like result, but lesser quantity. I then determined, if the secretion continued, to operate by incision, but, fearful of possible fatal result, I again aspirated in five days, intending this to be the last effort of that character. Three days after that the patient expectorated a large quantity of pus—evidently the effusion had made its way into a bronchus. Nature did the remainder of the work. Expectorations of the same character continued in lessening quantities, and finally ceased. The patient is now well. A year has elapsed.

R. R., a teamster, was admitted to hospital with delirium tremens, from which he recovered very slowly, with a certain amount of cough. Examination of the chest revealed effusion in the left pleural cavity. Aspiration revealed it to be of a purulent character, but the pus being very thick, the tube choked up after evacuation of six ounces. Hectic fever appearing in a few days, incision of the cavity was determined on and performed under ether, a large quantity of pus welling out. A drainage-tube was introduced, and the cavity washed out with one per cent. carbolized water. This was done twice daily for four or five days. The discharge having become much lessened, and the injected water returning clear, the tube was removed, and the opening allowed to close. Every few days a slight discharge will escape from the wound, but it is lessening in quantity. The patient, whose temperature before the operation had reached 104°, is recovering rapidly, and has gained fifteen pounds, and has no more fever.

The lesson to be derived from these two cases confirms my belief in the advisability and safety of *aspiration* as soon as the active stage of pleurisy has ceased (which is my practice, and has always proved successful), and the safety of *incision* when the effusion is purulent, although in exceptional cases, as evidenced in Case I., the work will be done by nature.

Speaking of aspiration, I desire to report a unique case which came under my observation five years ago, and which I have long desired to place on record with the medical profession. It was at the time of occurrence reported in full to the Surgeon-General.

Trumpeter V. B. T., of the Second Cavalry, received a gunshot wound from a pistol in the right hypochondriac region. The shot was fired from below, and the bullet, after having passed through the liver, diaphragm, and right lung, was extracted by me through a counter-incision between the eighth and ninth rib, near the angle. He was suffering from shock and internal hemorrhage, accompanied by hiccough, and the next day complained much of distention of the abdomen, which, in place of tympanitic sound, revealed flatness in the lower half. Patient had rallied, and further internal hemorrhage apparently being arrested, the effusion remained to be dealt with. Temporizing, in my opinion, meant death to the patient from chronic peritonitis. I plunged an aspirator needle midway between umbilicus and symphysis into the cavity, and removed fifty-six ounces of fluid blood, much to the relief of the patient. To my regret, however, the swelling and hardness of the abdomen recurred in a few days, with increased area of flatness of sound, but without corresponding symptoms of continued internal hemorrhage. Effusion of bile through a lacerated bile-duct being suspected, the aspirator was again resorted to, and one hundred and twelve ounces (carefully measured) of *clear bile* removed, with great relief to the patient, and no untoward consequences. The same operation, under similar indications, and with less apprehension, was repeated three days afterwards, yielding seventy-two ounces; four days after that, ninety-four ounces, and in five days more sixty-eight ounces. After this the effusion did not reappear, presumably owing to cicatrization being completed, and patient recovered, deserted, was captured, served a term in prison, and a few days ago I saw him in robust health.

FORT KEOGH, MONTANA TERRITORY, July 6, 1883.

A PORRO-MÜLLER OPERATION.

BY W. H. PARISH, M.D.,
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[*A paper read before the Obstetrical Society of Philadelphia, October 4, 1883.*]

SALLIE SMITH, a deformed dwarf, applied for admission to the Philadelphia Hospital in April, 1883. One of the Internes placed her among the pauper women of the out-wards of the almshouse. There, all the conditions surrounding the dwarf were such as to contribute to her physical deterioration. The women in that portion of the institution are unduly crowded—the ventilation is entirely inadequate, and the food of a character unfit for a pregnant woman. Her presence in those wards was unknown to any of the visiting obstetricians of the hospital until June 15, when Dr. Pauline Root, one of the Internes, ascertaining her pregnancy and her surroundings conveyed the information to me.

I at once had her transferred to the obstetric wards, where she was specially provided for and her condition carefully investigated. She was a native of Philadelphia. She was unable to give her age—although dwarfs usually appear to be older than they actually are, yet from what could be learned of her past life, from evident atheroma of her bloodvessels and from her appearance, I concluded that she must be over forty years of age. Her parents were poor, were born in Ireland, and died in this city during her early infancy. She had been told that her father died of heart disease, and her mother of insanity at the menopause. She did not know how or by whom she was cared for during her early childhood. She attributed her deformities to a fall supposed to have been received when she was a very small child. She was unable to walk until she was seven years of age. Her occupation, from the time she was first able to work, had been that of a house servant. Menstruation began at sixteen years, continued at the usual periods, but rather profusely until the beginning of pregnancy.

She could not recollect ever having been seriously ill. I learned from some of her acquaintances that for a number of years she had been of intemperate habits, repeatedly becoming intoxicated, and indulging in promiscuous sexual intercourse. Her bad habits led to exposure to inclement weather, and, with the influence of cold and damp, doubtless led to the disease of the kidneys, to which I shall again refer.

She was pregnant for the first time. The date of the last menstruation was given by her differently at different times. At one time she would give the 1st of October, at another time, the middle of October as the date when menstruation last ceased.

She felt movement of the child about the middle of February, though she was also uncertain in reference to the date. The *fundus uteri* reached nearly to the ensiform cartilage, and I concluded that the full period of pregnancy would be attained about the 10th or 15th of July.

She was fifty-one inches high, the head small, mind sluggish, and memory defective; yet she was not an imbecile. The clavicles and bones of the upper extremities, though small, presented no special deformities; they did not show the usual rachitic incurvations. The right thorax was very prominent posteriorly and laterally; the left thorax markedly depressed posteriorly and laterally. Both lungs, but more especially the left one, were greatly encroached upon by the deformed thoracic walls. The heart was displaced upward and to the left, its apex being on a level with and external to the left nipple. Pulse 86, of good volume, but intermittent. Bowels moved daily; urination frequent. Urine contained one-quarter albumen, and also granular and hyaline tube-casts. The eyelids were slightly œdematous, but œdema was not recognizable in any other part of the body. The patient complained of frequently recurring frontal headache. At times things seemed darkened to her, and dark specks appeared before the eyes. She had never experienced convulsions, but occasionally had slight fainting attacks.

The vertebral column was markedly curved. The upper third of the dorsal region was slightly convex posteriorly, the lower two-thirds markedly convex posteriorly and also decidedly convex to the right. The lumbar portion was convex anteriorly and to the left. A left anterior lumbar convexity, compensating for a right posterior convexity of the dorsal region. In the erect position, the lower ribs and the crests of the ilia seemed in contact, and the left iliac crest about one inch higher than the right. Posteriorly there was a deep depression at the sacro-vertebral articulation, and the posterior-superior spines were unduly approximated. Externally examined, the sacrum, in its upper two-thirds, seemed directed nearly horizontally backwards.

External measurements with a pelvimeter showed about fifteen centimetres, or six inches, between the posterior surface of the top of the sacrum and the anterior surface of the top of the symphysis pubis. Normally this measurement is about eight inches. Deducting three inches from the external conjugate of six inches, would have made the internal or true conjugate three inches. The distance between the anterior-superior spines measured twenty-five centimetres, or about ten inches, the normal being ten and one-quarter inches. Between the normally widest portion of the crests of the ilia the distance was a little less than that between the anterior spines—that is, a little less than ten inches, the normal being eleven and one-half inches. The measurement between the crests being less than that between the spines, indicated the pelvis to be rachitic, though it will be seen that the pelvis was not the more usual, typical rachitic one. The external measurements did not indicate decided transverse narrowing of the true pelvis, though internal manual examination did show decided transverse narrowing.

Repeated internal examination showed the promontory to be jutting forward, and the anterior surface of the sacrum to be nearly straight, and directed almost horizontally backward. The symphysis pubis was correspondingly inclined downward and backward.

The oblique conjugate measured three and one-fourth inches, the depth of the symphysis pubis one and a half inches; hence, according to Lusk, deducting three-fourths of an inch from the oblique conjugate, I estimated the true conjugate to be two and a half inches. The transvere diameter of the superior strait was evidently considerably shortened, but I could not satisfactorily determine the degree of the shortening. The antero-posterior diameter of the excavation was taken to be less than the corresponding diameter of the superior strait, and all the measurements of the outlet less than the corresponding ones of the superior strait. The pelvis was diagnosed to be a generally contracted one, with proportionally greater diminution of the conjugates, and the general contraction increasing from above downward, so as to produce a somewhat funnel-shaped pelvis. The vaginal canal was narrow, the os uteri high up, and the uterine fundus markedly tilted forward. The abdomen was remarkably pendulous.

When the patient first came under our observation, pregnancy seemed to have reached about the

end of the ninth lunar month, according to the most probable interpretation of the symptoms, and of the information she gave. The question arose, would it be best to produce a premature labor at the end of the ninth month, with a generally contracted pelvis, and a true conjugate of two and a half or two and three-quarter inches? I decided that should a premature labor be attempted under such circumstances, craniotomy, or some other similarly dangerous operation, would be eventually necessitated, and that the dangers of such operation would be increased by the addition of those incident to the production of premature labor. Delivery with forceps, or by podalic version, seemed out of the question. There was a choice between craniotomy, symphysiotomy, Cæsarean operation, gastro-elytrotomy, and the Porro operation.

In such a pelvis, craniotomy would have been difficult and tardy, and has been shown, especially by Parry, to be attended with a mortality of mothers too large to compete with abdominal section.

I did not prefer the Cæsarean operation, because of its excessive mortality to mothers in European hospitals, and because of the six Cæsarean operations performed in hospitals in this country, all were fatal to the mothers. A condition almost essential to recovery after Cæsarean operation is rarely met with, even after normal deliveries, in hospitals. I refer to sufficient retraction of the uterus. A flabby uterus, after a Cæsarean operation, leads to blood-poisoning and to general peritonitis. The experience of many hospitals, as also *à priori* reasoning, would make the Cæsarean operation of very questionable justification in hospitals, especially in large maternities, and more decidedly still in general hospitals. The Philadelphia Hospital is not only a general hospital, but is also part of a large almshouse. Gastro-elytrotomy and symphysiotomy have given good results in the hands of a few operators, the former especially in America, the latter in Europe; but both operations have been performed with comparative infrequency, and the question of their respective merits cannot be determined by the very limited number thus far performed.

I do not desire to discuss *in extenso* here the general question of the relative value of the different operations performed for the relief of advanced pregnancy in very small pelves. Among the considerations inducing me to adopt the Porro operation, with Müller's modification, were, the smaller mortality to mothers attending this operation in hospitals, and the opportunity it allows the operator of selecting daylight, and of securing the needed assistants.

The patient was placed under the influence of quinine, of Basham's mixture, and of occasional doses of the compound jalap powder. Woollen underwear and proper diet were secured for her. She was isolated from all lying-in women. Her condition did not improve, however, as the time for operation approached, but on the reverse, a persistent œdema of the face, more troublesome headache, and more marked disturbance of vision, with an increasing quantity of albumen in the urine, all pointed to steadily increasing uræmia. The time chosen for the operation was what was supposed to be the end of the thirty-eighth week of pregnancy. A large, well-lighted, well-ventilated room in the Children's Asylum, remote from the obstetric wards, and one that had for years been used as a private parlor, was selected in which to operate, and in which the patient was to remain after the operation. This room was divested of curtains, carpets, and furniture; its walls and floor were thoroughly scrubbed with carbolized water. The room was then refurnished with chair, table, and a new bed. In short, every means was resorted to to improve, as far as possible, the unfavorable conditions incident to so large an institution as the Philadelphia Almshouse.

The members of the obstetric staff had agreed with me in the diagnosis of the patient's deformities, and also as to the propriety of the performance of a Porro-Müller operation. The patient was also kindly examined prior to the operation by Drs. Albert H. Smith, Robert Harris, M. O'Hara, and Anna Broomall. After receiving a full explanation of the nature of the operation, the patient gave her entire consent. The operation was performed on June 30, 1883, with the assistance of Drs. Duer, Keating, Musser, Stryker, Montgomery, Clara Marshall, and Bernardy, all members of the obstetrical staff, and also with the assistance of Dr. McLoughlin, warden of the hospital. There were present Drs. S. D and S. W. Gross, Ellwood Wilson, J. L. Ludlow, Albert H. Smith, Anna Broomall, J. H. Brinton, Hannah Croasdale, and other physicians. On the morning of the operation the room was carbolized with the spray, but the latter was not used during the operation. All instruments were kept in a two per cent. carbolized solution, and Listerism, minus the spray over the patient, was in the different details observed. On the morning of the operation the patient received a general bath, and the bowels were moved by enema. A half hour before the operation she received two ounces of whiskey. Dr. Joseph Hearn, one of the surgeons of the hospital, and an experienced anæsthetizer, kindly administered ether during the operation. After etherization the bladder was emptied with the catheter. An incision was then made in the median line of the abdomen about seven inches in length, extending from two inches above the symphysis pubis to about one inch above the umbilicus, passing to the left of the umbilicus. The slight bleeding from the lips of the abdominal incision was controlled by artery compressors before opening into the peritoneal cavity. The absence of intestine from in front of the uterus was ascertained by percussion before making the incision. The uterus was easily raised from the abdominal cavity.

Owing to the anterior lumbar curvature, and to the length of the incision, it was impossible to completely prevent the escape of intestines. After the uterus had been turned out, a protector made of two layers of flannel, with an intervening layer of protective silk, was placed over the abdomen; the object being to avoid chilling, and to prevent the escape of blood and other fluids into the peritoneal cavity. This protector, when used, was wrung from

a warm carbolized solution. The next step was to place around the cervix the wire of an écraseur, and to constrict the tissues in its grasp to such an extent as to stop all circulation of blood through the uterus without cutting through the peritoneum. This step required speed, care, and judgment. The liability of a loop of intestine or of omentum to be caught by the constricting wire had to be carefully guarded against. Immediately that sufficient constriction had been secured, a short incision was made with a pointed bistoury through the antero-uterine wall down to the placenta, for the placenta proved to be attached anteriorly. The incision was then rapidly extended, from near the neck to the fundus, with a probe-pointed bistoury, guided by two fingers of the left hand introduced into the incision. The blood pent up in the uterus by the constricting wire escaped freely, but did not enter the abdominal cavity. The incision passed to the external surface of, but not through, the placenta. The hand was immediately introduced into the uterus through the exposed membranes at the fundus, and the child quickly turned out, the placenta being in this manœuvre detached in main from the uterus. The cord was promptly tied and cut, and the child handed to Dr. Keating. It was asphyxiated when delivered, and presented a very unpromising appearance.

It, however, quickly breathed and cried under the efforts of Dr. Keating at resuscitation. The rapid resuscitation was effected by alternately dipping the child in basins of hot and of cold water. After removing the infant, the uterus, with both ovaries and both tubes, was amputated a half-inch above the constricting wire—this point was about at the internal os. It was then seen that the wire had completely controlled the circulation, and not a drop of blood escaped from the stump of the uterus.

The next step consisted in passing obliquely through the stump two steel pins five inches in length, one above, the other below, the wire. After this a strong carbolized silken cord was passed around the stump, in the line of the wire, and partly tightened. The wire was then cut and removed, and the silk cord then very firmly tightened and securely tied. Special care was given to the tightening of this cord and to the tying of a secure knot. The ends of the pins rested laterally on the abdominal walls, and under the ends, on each side, was placed a piece of sheet-lead. The stump was thus secured outside of the abdominal cavity, and rested at the lower angle of the wound. New carbolized sponges on handles were introduced into the peritoneal cavity, down into Douglas's pouch, but the entire cavity was free from blood or other fluid.

The abdominal wound was then closed by deep and superficial silver sutures. The deep ones were introduced so as to include the peritoneum. During the introduction of the deep sutures, flat carbolized sponges were introduced beneath the incision, so as to catch what oozing might occur from the needle punctures. The external portion of the uterine stump was brushed over with carbolic acid, and then invested with lint saturated with carbolized oil. A strip, two inches wide, of dry carbolized lint was placed on the incision; over this a few strips of rubber adhesive plaster were applied transversely, over these a thick layer of carbolized cotton, and over all a flannel binder. The patient was put to bed, and surrounded with pans of hot water. Dr. Montgomery took charge of the patient's general condition during the operation, and administered during its performance four hypodermic syringefuls of whiskey. He reports that the time taken up in the operation, from the beginning of the abdominal incision until its complete closure, occupied forty minutes. During the operation the pulse ranged from 100 to 128, the greater frequency being during the making of the incision in the abdominal wall, and was probably due to impeded respiration. The constriction of the cervix had no appreciable effect upon the pulse. Soon after being put to bed, the pulse was 132, but in two hours was 108 per minute, and of good volume. The respirations during the anæsthesia became disturbed and imperfect, producing considerable cyanosis, and probably causing increased frequency of the heart's action.

The patient rallied well, as was shown by return to consciousness, by bodily warmth, and a fair pulse. For about sixteen hours her condition seemed very favorable, excepting that the kidneys had ceased to act. At the end of twenty-three hours there was marked change for the worse; the mind wandering, pulse 140, temperature 100° F. An inspection of the dressing at that time, showed some oozing from the stump—perhaps six ounces—but it had then stopped. An additional ligature was placed around the stump, and one of the uterine arteries was separately ligated, the other could not be found; the stump was also brushed over with Monsel's solution. There was no subsequent oozing. That there should have been any loss of blood in this manner was a surprise to me, as the original ligature was so very firmly tightened and secured, and had for a number of hours after reaction so perfectly controlled all bleeding. There was marked atheroma of the vessels of the stump, as was revealed *post-mortem*. After the twenty-third hour the patient grew progressively worse, became uncontrollable and delirious, had convulsive manifestations, and died in coma. There was no vomiting until twenty-six hours after the operation, and it recurred only once. She experienced but slight pain, and sulphate of morphia was given in small quantity—¼ gr. hypodermically, soon after the operation; again ⅙ gr. at the end of eleven hours—and subsequently about the thirty-sixth hour, because of the great jactitation and the difficulty of keeping the patient in bed. The morphine was given hypodermically by Dr. McLoughlin in such small amount that the coma could not have been due to it. Eight hours after being put to bed the urine was drawn with the catheter. Subsequently the catheter was introduced at different intervals, but on each occasion the bladder was empty, and it was also found empty at the *post-mortem* examination. Only three ounces of urine were secreted after the operation. The patient survived forty-two hours.

Dr. John Gillespie made a careful analysis and microscopic examination of the urine secreted after the operation, with the following report:

The specimen of urine from the woman upon whom the modified Porro operation was performed was examined, with the following result:

The specific gravity was 1023; reaction decidedly acid. The urine was of a dirty, yellowish-brown color, and contained a large amount of albumen (rather more than one-third).

The amount of urea contained in the urine received by me was 10.5 gr. for the entire amount. Therefore, if only three ounces of urine were excreted in forty-two hours, the total amount of urea excreted would be about fifteen grains.

The sediment contained granular, hyaline, and epithelial casts, renal and bladder epithelium, and granular detritus and blood-corpuscles.

Dr. Wile, the acting pathologist of the hospital, conducted the *autopsy*, and I extract the following from the pathologist's records:

On opening abdominal cavity several slight adhesions were found between the visceral and parietal peritoneum in the region of the surgical incision. Bloodvessels around incision markedly congested. No exudation or other evidences of general peritonitis.

Stomach and intestines distended with gas; spleen small, atrophic.

Left kidney: Considerable displacement, found between sixth and seventh ribs. Somewhat lobular, on surface pea-sized cyst, which extends somewhat into the cortical substance of kidney. Cortex reduced, the seat of parenchymatous, solid, interstitial change.

Right kidney: Position normal; shape altered, considerable flattening on upper surface; hilus very marked; capsule adherent, seat of parenchymatous change. Both kidneys in state of contraction.

Pelvis: One ounce of bloody serum in Douglas's pouch. Peritoneal and subperitoneal tissue the seat of considerable œdema.

Veins around vagina enlarged.

Cervix uteri virginal; orifice round.

Liver enlarged; fatty.

Thorax: Left, upper, anterior, side pleura adherent.

Heart: Left side firmly contracted; right relaxed. Right auricle and ventricle seat of a firmly adherent chicken-fat clot. Left ventricle contained small amount of dark, slightly coagulated blood. Left ventricle markedly hypertrophied. Mitral valve, slight thickening. Papillary muscle considerably hypertrophied.

Lungs: Hypostatic congestion; œdematous.

Cause of death: Heart-clot.

The bloodvessels are for the most part congested, filled with corpuscles, and surrounded by a growth of connective tissue. The uriniferous tubules are found filled with cellular and granular debris. Some contain pigment, the result of slight hemorrhages. The epithelial lining of the tubules is granular, and in some places in a state of proliferation, indicating a catarrhal process. The growth of connective tissue between the tubules and about the Malpighian bodies is more marked in some places than in others, and the interstitial process may be regarded as fairly established. A careful measurement was made by Dr. S. D. Lazarus and myself after the pelvic viscera had been removed, with the following result:

	Conjugate.
Superior strait,	3 inches.
Transverse,	4 "
Right oblique,	3¾ "
Left oblique,	4 "
Oblique conjugate,	3¼ "
Depth of symphysis,	1½ "
Obstetrical conjugate,	2¾ "
Excavation:	
Conjugate,	2¾ "
Transverse,	4 "

Upper four sacral vertebræ directed nearly horizontally backward; lower portion of sacrum and coccyx curved sharply forward.

Inferior strait:	
Conjugate,	2½ inches.
Oblique,	2¾ "
Transverse,	3½ "

Perpendicular to plane of superior strait, nearly horizontal, striking abdominal wall about midway between umbilicus and top of symphysis.

Perpendicular to plane of inferior strait would strike the upper part of the third sacral vertebra.

The death of the dwarf must be attributed chiefly to the existence of interstitial and parenchymatous nephritis. She had rallied from the shock of the operation. There was no peritonitis, excepting in the immediate vicinity of the incision.

It was too early for septic poisoning to produce death, and there were no indications that such had occurred. The loss of blood had been trifling, and death occurred too soon to be attributable to exhaustion from this cause.

The acute and almost complete suppression of urine, the symptoms after the operation, the symptoms prior to the operation, and the results of examination of the urine and of the kidneys after death, all pointed to the diseased kidneys as the cause of the fatal result to the mother.

It is well to note that union had occurred throughout the entire extent of the abdominal wound. There were adhesions between the small intestines and the parietal peritoneum along the line of incision. The latter fact is of interest, viewed in the light of death in a few instances after laparotomy being attributed to strangulation of the bowel, due to constricting inflammatory bands.

The child was of small size, and died at the end of three weeks, of inanition.

CHINESE OPIUM-SMOKING: THE DRUG USED IN THE FORM OF AN AQUEOUS EXTRACT.

MANNER IN WHICH THIS IS PREPARED AT HONG KONG UNDER THE SUPERVISION OF THE GOVERNMENT.

BY J. G. KERR, M.D.,
OF CANTON, CHINA.

[THE Chinese are said to *smoke* opium, and inhale the smoke. This will be shown to be an error, in the sense that the drug is burned, as it is

used in a moist state, and the flame drawn over it, so as to produce a steam or vapor, which is drawn into the lungs, with the air inhaled through the flame. Dr. Kerr, in this paper kindly sent me, explains the whole subject of the preparation and use of the poison. We were aware that the drug was used in the smoking-dens of the consistence of molasses, and given by the dealer to the smoker on a wire, after having been heated over a lamp; but the paper here presented opens up a new subject, and shows that the Colonial Service has a monopoly in preparing the extract, and derives a large revenue therefrom.—R. P. HARRIS, M.D.]

THE opium brought from India into China in such large quantities[1] is known by three names—Patna opium, Benares opium, and Malwa opium. The Patna comes in round balls, weighing on an average four pounds each, and one chest contains forty balls. The opium is in the form of a soft, black mass, and is enclosed in a shell made of the leaves of the poppy, of which several layers make a thickness of about one inch. The shell weighs one pound, and the opium three pounds.

The other two kinds are in lumps of irregular size and shape, weighing from four to six or eight ounces, and being more dry and solid than the other, have no external shell, but are packed in large chests with dry and broken leaves.

The opium as thus imported is not in a state suitable for smoking. It is taken through a process by which a very fine inspissated, watery extract is produced, and it is this only which is fit for smoking. A description of the process of preparing the smoking extract may be of some interest to physicians and pharmaceutists, and to others who study the opium question.

Through the kindness of J. H. Stuart Lockhart, Esq., and of Mr. Seth, of the Colonial Service, Hong Kong, I was favored with every facility for observing the "boiling" of opium as it is conducted under the supervision of the government. All the opium prepared in Hong Kong, whether for local use or for export, must be brought to this establishment—221 Praya West—weighed, and boiled under the supervision of an officer appointed for the purpose. From eighty to one hundred balls are boiled every day, and a tax of $2.25 is levied on each ball.

There are two stages in the process of preparing the extract, and two days are required.

First Stage.—The shops licensed to deal in opium send as many balls as they wish worked up with a man skilled in the business. A register is kept of the shop name, the number of balls sent, the weight, and the amount of dross or seconds to be mixed in. The balls are then cut in halves, the opium carefully taken out and deposited in copper pans. The inner layers of the shell, which are saturated with opium, are taken out, boiled separately, pressed, and the water strained. This water is poured on the opium, and more added if necessary. The pans are now placed on furnaces, over a hot charcoal fire, and boiled for three, four, or five hours. During the latter part of the time, the fire is slowed down, and constant stirring with a wooden paddle is required. When most of the water has been evaporated, and it has attained the consistency of a pill-mass, it is made into thin sheets in the following manner: The mass, being first thoroughly worked up, and made into a ball, is spread out over the bottom of the pan by pressing it with a large, round ladle. The pan is then placed, with the opium downwards, over the furnace. In two or three minutes a layer of the opium is dried, and this is peeled off with the fingers. The pan is again placed over the fire, another layer dried and separated, and this is continued until the whole of the opium is made into sheets, forty or fifty in number. Each sheet is about one-eighth of an inch in thickness, is porous and friable, crumbling to pieces between the fingers. These sheets are then placed in a copper pan, covered with water, and the first stage is completed.

Second Stage.—On the day following, the second stage begins by carefully filtering the water in which the thin sheets of opium have been steeped over night. A filter is made by arranging six or eight layers of filtering paper in a light basket. This is set over a stoneware vessel, and the water containing the opium poured into it. After a part of the water has passed through, other layers of paper are placed over the opium, and the liquor is passed several times, and finally clear water, until all the soluble parts are exhausted. What is now left on the filter is a black mass, called "nai cha," or dregs, which, when dry, is pulverulent, and is practically worthless, being sold for two or three cents a pound.

The filtrate in the jars is next transferred to copper pans, and boiled rapidly over a strong charcoal fire until a large part of the water is evaporated. The fire is then lowered, and the boiling continued with constant and careful stirring, until it has attained the appearance and consistence of treacle. It is then ready for use, and is put in earthen jars, which are enclosed in closely fitting tin boxes.

The second stage requires from four to six or seven hours, according to the skill of the operator. One ball containing three pounds of crude opium yields by the above process about two pounds of the smoking extract, and, when made without any admixture of seconds, is of deep brown color. If seconds has been added, the color is more or less black.

If the extract were prepared from the opium as it comes from the balls, it would have a uniform composition and strength, but in practice, the dregs or seconds from the pipe are mixed with the opium in greater or less proportion, according to the fancy of the dealer; and besides, numerous modes of adulteration are practised, so that it would be difficult to find in the shops two specimens agreeing in composition.

The dross or seconds is almost as valuable as the crude opium, one tael weight being worth, at the present rate, thirty cents, while crude opium is worth thirty-six cents. It is carefully collected

[1] About 100,000 chests, containing 4,000,000 balls, are annually imported.

from the pipe, and is sold in the form of a coarse powder of a dark-brown or blackish and somewhat charred appearance. It is perfectly dry, and is added during the first stage when the boiled opium is beginning to get thick. The variable proportions in which it is mixed will appear from the record of several lots brought in the morning I was there:

To 1 lot of 2 balls, weight 93.2 taels,[1] 6 taels of seconds were added.

To 1 lot of 3 balls, weight 147.6 taels, 8 taels of seconds were added.

To 1 lot of 4 balls, weight 199.4 taels, 20 taels of seconds were added.

To 1 lot of 1 ball, weight 48.4 taels, 20 taels of seconds were added.

To 1 lot of 2 balls, weight 99.7 taels, 10 taels of seconds were added.

To 1 lot of 1 ball, weight 48.9 taels, 20 taels of seconds were added.

The highest here given is twenty taels of seconds to one ball or thirty-six taels of crude opium, and the lowest two and two-thirds taels of seconds to one ball or thirty-six taels of crude opium.

It is evident from the almost universal practice of mixing seconds with the crude opium, as well as from its market value, that dealers consider that it contains a considerable quantity of the virtue of the opium. We may therefore reasonably infer that, in smoking, the alkaloids in which the virtue resides *are not destroyed by being charred.*

We will now follow the opium extract, thus prepared, as it passes through the pipe, and note the obvious changes which occur during the process of smoking. The smoker, lying on his couch or divan, with the pipe, lamp, and other implements on a tray, takes a portion of the opium-extract on the point of a wire, and warms it carefully over the flame of the lamp. He dips it again in the little jar of opium until the requisite quantity adheres, alternately warming it over the flame of the lamp, and pressing it on the flat bowl of the pipe, turning it over and over, and working it carefully on the end of the wire, until it is reduced to the state of a soft solid by the evaporation of a portion of the water contained in the semi-fluid extract. During this process, it swells up into a light porous mass from the formation of steam, and it must, therefore, be heated up to the boiling-point of water, and the presence of water prevents combustion.

When the little bolus is brought to the exact state fitted for smoking (being still a soft solid), it is worked into a ring around the wire, the point of the wire inserted into the round hole of the pipe, and by twirling the wire around while withdrawing it, the opium is deposited on the pipe and adheres to it, the hole in the ring of opium corresponding to the hole in the bowl[2] of the pipe. The stem being now applied to the lips, and the bowl held over the lamp, the flame is drawn in over the opium, converting into vapor all the volatizable material it contains. To understand what takes place, it is important to note that, preparatory to smoking, the opium has been slowly and carefully heated until steam has been formed in its substance. While in this heated state, and with water enough to prevent charring and to form more steam, the flame of the lamp is drawn over it by successive inhalations, producing the so-called smoke, and leaving a solid residue—the "in-she" or "seconds." The smoke is inhaled into the lungs, and comes in contact with the immense surface of the respiratory mucous membrane, and through it acts upon the system.

It has been denied by gentlemen who have paid some attention to the matter, that morphia and its compounds are volatilizable, and therefore that any of the alkaloids can be carried by the smoke into the system. However this may be, it is demonstrated a thousand times every day, by every whiff a Chinaman takes of his pipe, that certain constituents of the *watery extract of opium* are convertible into vapor; and the sallow complexion, stupefied visage, and wasted frames of old opium-smokers afford strong reason to infer, if they do not absolutely prove, that every whiff of the smoke or vapor conveys more or less of the alkaloids into the victim's blood.

The whole of the watery extract is, of course, soluble in water, and it is probable that the water—being rapidly converted into vapor by the flame of the lamp in the act of smoking—carries the alkaloids with it in the smoke. There is no proper combustion, and the so-called smoke is not smoke, but the watery extract converted into vapor. When all the water is exhausted from the bit of opium on the pipe, combustion might begin, but the smoker is skilled, from long practice, in withdrawing the heat at the proper time, so as to retain the value of the dregs, and thus diminish somewhat the outlay of an expensive habit.

The confused ideas which prevail as to what takes place in the act of smoking opium, and confounding it with the combustion of tobacco-smoking, have led to much misconception. Chemists need not have been puzzled about the volatilization of morphia and its compounds, had they first studied the conversion of the watery extract of opium into vapor by the process invented and practised so extensively by the Chinese, to the ruin of so many thousands of their race.

[If the reader desires to know more of the opium-habit of the Chinese, the amount of the drug smoked, its cost on the average *per capita*, the extremes of its consumption, and the curse it is to the nation, we may refer him to a review in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for April, 1883, page 545, and particularly to a calculation made on page 550. It is impossible to estimate the amount of opium used in China, as the poppy plant is being more and more extensively grown in the empire every year, to the exclusion of cereals and other vegetable productions, and to the greater injury of the natives.]

[1] 12 taels = 1 pound.

[2] There is not, properly, a bowl, but a flat surface with a hole in it.

A CASE OF FOREIGN BODY IN THE AIR-PASSAGES FOR TWO YEARS; SPONTANEOUS EXPULSION.

BY G. GRANVILLE FAUGHT, M.D.,
OF PHILADELPHIA.

THE accidental inhalation of foreign bodies into the air-passages is so frequent that the following case is added to statistical surgery only on account of its remarkable nature. I am indebted to Drs. Casselberry and Radcliffe for notes on the case.

W. C., aged 46, had been an inmate of the Germantown Hospital for a year previous to the accident. He had been admitted for necrosis of the femur, and had been operated upon shortly after his admission. In November, 1880, he was allowed to visit his own home for the afternoon, and while there, and doing, as he expressed it, "a little fixing around," according to his own account, placed *three* tacks in his mouth. He was standing upon a chair, when it slipped; he fell, and the force of the fall ejected two of the tacks from his mouth, the remaining one disappearing down his throat. His impression was that it went down his "windpipe." He continued his work, however, and did not return to the hospital until about seven P. M., when he reported the occurrence to the nurse, and handed him the two tacks he had spit out. These the nurse immediately gave to Dr. William E. Casselberry, the resident physician. They were large tacks, about five-eighths of an inch in length. The patient persisted that the remaining tack, which was like the others, had gone down his "windpipe." He complained of some pain at a point beneath the upper portion of the sternum and to the right side. There was a slight, nervous cough, which he had not previously had. Physical examination of the chest disclosed nothing unusual. Nothing could be seen in the pharynx; the patient could swallow readily and without pain. No laryngoscopic examination was made, as there were absolutely no symptoms referable to the larynx.

A consultation of the staff was called that evening, and they summoned the consulting surgeons. Dr. William Hunt responded. At both consultations it was decided to do nothing, as there was no evidence as to the position of the tack. The nurse was directed to search carefully for the tack in each of the patient's stools, and after the first day, the patient was allowed to go about as usual. At the end of forty-eight hours, the tack was found in one of his stools; it resembled the other two, and was slightly corroded. The patient also saw the tack removed from the stool, and was greatly rejoiced to be rid of it. Dr. Casselberry informs me that the nurse was a reliable man, who had occupied his position about two years, and was not likely to have practised any deception, even if such were possible. The patient complained of no further symptoms referable to the tack during the time—about one year—that he remained under Dr. C.'s observation.

During my own service of one year at the hospital, the patient was troubled at times with a slight hacking cough, principally at night, and without expectoration. Several times during the year he had a sudden and severe chill which could not be accounted for by any condition of his leg, the bone of which was still in a necrotic condition.

In October, 1882, Dr. McCluney Radcliffe succeeded me at the hospital. One evening, late in November of the same year, Dr. Radcliffe was summoned to the patient, and found that he had just had a severe chill. The following morning there was another chill, but feeling comparatively well towards evening, the man concluded to get up and sit by the open fire in the ward. While seated on the side of his bed, leaning forward, and engaged in tying his shoe, he coughed suddenly and violently, and ejected from his mouth a tack, exactly similar to the one swallowed two years previously. The tack was corroded and covered with mucus. The patient was as much astonished as the nurse and fellow-patients, and remarked that he would have been very miserable had he known that it was "there." The expulsion of the tack is beyond all question of deception. Since the occurrence, the patient has been free from all cough, and has had no repetition of the chills. Physical examination of the chest gives negative results.

142 NORTH FIFTEENTH ST.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

Service of PROF. NEUMANN.

(Specially reported for THE MEDICAL NEWS.)

MERCURIFORM AMIDE.

MERCURIFORM amide is the name of the remedy which Prof. Neumann is now trying upon a large scale as an anti-syphilitic. The agent was produced early in the present year in Liebreich's laboratory, but the process of its manufacture is a secret. As received in Vienna from Berlin, it is a one per cent. solution, and is without color or odor.

The remedy is exhibited hypodermically in quantities of 1 c.c. While the drug is efficacious in causing the rapid disappearance of syphilitic efflorescences, its absorbent effect upon scleroses is not comparable with that of mercurial inunctions.

Two very unpleasant effects have been noticed. *Pain* following the hypodermic injection is severe, of a peculiar character, and frequently lasts the entire day. In a number of cases abscesses and diffuse cellulitis of an alarming severity have been provoked. *Salivation* occurs more rapidly after mercuriform amide than after any other known form of mercury. Twelve hypodermic injections have been sufficient in a number of cases to seriously affect the gums. At time of writing, most cases of recent syphilis in Prof. Neumann's wards are being treated either with an ethereal solution of iodoform (one to seven), or with mercuriform amide.

MEDICAL PROGRESS.

THE ACTION OF ANTISEPTICS USED AS DRESSINGS.—M. GOSSELIN has recently made some interesting experiments on this subject, which consisted in spreading on a plate of cork pierced by an opening, the transparent membranes of certain animals, on which one may see, under the microscope, the capillary circula-

tion. He employed, generally, the transparent membranes between the toes of frogs; in three other cases the mesentery of rabbits, frogs' mesentery, and the bladder of a mouse. When the membranes were well spread out under the microscope (about two hundred powers), the movement of the blood in the capillaries was well seen, and the antiseptic substance was placed on the membrane. The experiments were made with carbolic acid solution, pure alcohol, alcohol diluted with water, and camphorated brandy. The results were as follows:

1. *With carbolic acid solutions 1–20 and 1–40*, the circulation was suddenly arrested in a few seconds after the first application, slowly began again, and then ceased suddenly after a second or third application. With a 1–40 solution it was necessary to make three applications in four or five minutes, to completely arrest the movement of the blood. On the next day the circulation had not recommenced, though the blood-vessels were clearly seen. The absence of any current was attributed to coagulation of the blood in the capillaries; at the end of the third or fourth day, the membranes were brownish, shrivelled, and in process of exfoliation, that is to say, gangrenous, and the animal died, probably from carbolic acid poisoning in the case of the frogs, and from the traumatism in the case of the case of the other animals.

2. *Carbolic acid solution of 1–60.*—The results were practically the same as with the 1–40 solution, except that the processes took place more slowly.

3. *Carbolic acid solutions of 1–80 and 1–100.*—The arrest of the circulation took place still more slowly, and was only complete at the end of about fifteen minutes. In one case, after having been arrested, the circulation was found reëstablished on the second and third days, and was again set up after having been arrested a second time.

4. *Alcohol at 86°.*—The immediate results were analogous to those with 1–20 solutions of carbolic acid, except that the arrest of circulation was not so sudden.

5. *Alcohol and water in equal parts.*—At first there was a general slowing of the current, and then, in about ten minutes, and after four applications, complete arrest in several vessels, but no arrest in others. This incomplete arrest of the circulation persisted for several days, but there was no gangrene.

6. *Camphorated brandy.*—The same results were obtained as with carbolic acid solutions of 1–60 and 1–80, and with dilute alcohol, immediate slowing of the blood-current, and complete cessation in twelve or fourteen minutes after four applications. On the second and third days the circulation was not reëstablished, but there was no gangrene. With camphorated brandy and water, in equal parts, the circulation was not arrested.

From these experiments it appears that on the application of an antiseptic, the circulation is arrested in the capillaries by the more or less rapid coagulation of the blood. It is more quickly arrested when the antiseptic is strong. In one case the circulation was restored on the day after its arrest. M. Gosselin attributes this arrest to the coagulation of the blood, caused by contact with the antiseptic substance which had penetrated the thin membranes and capillary walls.—*Gaz. Hebdom.*, No. 36, 1883.

THE PRODUCTION OF ANÆSTHESIA IN ORGANIC AFFECTIONS OF THE ENCEPHALON.—In a series of communications to the Academie de Médecine, M. BROWN-SÉQUARD attempts to show that anæsthesia, paralysis, and amaurosis produced by an organic affection of one of the various parts of the encephalon, depend generally, if not always, upon other causes than have been assigned to them, that is to say, a loss of function of the part destroyed. Numerous experiments on dogs, rabbits, and Guinea-pigs show that anæsthesia due to an organic lesion of the brain may disappear suddenly, or very rapidly. He then gives a series of arguments, the outcome of several thousand clinical observations made during the past thirty years.

1. All parts of the encephalon may produce anæsthesia. This explains how localists, committing the fault of thinking that a function which disappears necessarily appertains to the organ found injured, have advanced the opinion that the centre of perception of sensitive impressions, locate anæsthesia in the cerebellum, the optic tract, the posterior lobe, in certain convolutions, etc. Facts authorize us in placing that centre in the so-called motor region of the base of the brain, or of the internal capsule, in one or the other of the corpora striata, in all parts of the anterior lobes, middle or sphenoidal, etc., since lesions localized in one of these regions have sometimes produced anæsthesia.

2. Each portion of one-half of the encephalon may be destroyed without causing anæsthesia. The lesion itself may be quite considerable without causing symptomatic evidence of it. Richet has published a case of destruction of the middle lobe and a large portion of the posterior, without the production of anæsthesia. Abercrombie, Rostan, Porta, and other observers have found that a hemisphere may be almost entirely destroyed without causing anæsthesia.

3. Of the similar parts of the two sides of the encephalon, there are comprised those which are supposed to serve for the perception of sensitive impressions, and which may be destroyed without giving rise to evident anæsthesia.

4. Instead of producing anæsthesia, destructive lesions of parts, which are believed to be centres and conductors of sensation, sometimes give rise to hyperæsthesia.

5. In more than one hundred cases, lesions of the most different parts of the encephalon have given rise to anæsthesia on the injured side, the side upon which it should not have appeared.

6. A considerable destructive lesion of the parts considered as centres or conductors of sensitive impressions, instead of producing anæsthesia of the two limbs of the opposite side, has sometimes only produced it in the arm or the leg.

7. In certain cases of encephalic lesion, anæsthesia, instead of being total, is only present as regards certain characters of sensitive impressions (tactile, painful, thermal).

8. Anæsthesia may be produced only on one side of the body when the lesion reaches the same depth of the two similar parts at the base of the brain on the two sides.

9. Experiments on animals (and in harmony with very many clinical facts) show that transverse section of a lateral half of the base of the brain, from the bulb to the internal capsule, inclusive, give very varied results as to the production of anæsthesia. While, in every case, the experimenter may cut the entire mass of fibres believed to be conductors of sensitive impressions coming from opposite sides of the body, he finds, on the one hand, that each of the portions may be cut without causing evident or persistent anæsthesia; and on the other, that certain portions, especially the internal capsule, determine anæsthesia much more oftener than others.

If, in the face of these facts, one persists in considering anæsthesia of organic encephalic cause as demonstrating that the injured part is the conductor of or the centre for the perception of sensitive impressions coming from one-half of the body, he is necessarily reduced to upholding one of two absurdities—first, that each part of the encephalon is the only path for the

transmission or centre for the perception of sensitive impressions; or, second, that no part of the encephalon is a conductor or perceptive centre of sensitive impressions.—*Gazette Méd. de Paris*, No. 27, 1883.

APHTHOUS VULVITIS OF CHILDREN.—SARAZIN, *Thèse de Paris*, July, 1883, gives the following conclusions regarding this affection. 1. Aphthous vulvitis is a well-characterized disease. It is peculiar to little girls from two to five years of age. Rare in private practice; it is observed especially in hospitals.

2. Measles is the principal cause of this affection. It furnishes two-thirds of the cases.

3. Gangrene of the vulva has most frequently for its point of departure aphthous vulvitis.

4. The prognosis, which was unfavorable before the employment of the iodoform treatment, has become quite favorable since the introduction of this agent as a topical application.

5. The treatment consists in sprinkling the affected parts with iodoform powder, and keeping them separated with pledgets of lint. The internal administration of tonics is a useful adjuvant of local treatment.—*Journal of Cutaneous and Venereal Diseases*, October, 1883.

EXTRAVASATIONS OF BLOOD INTO THE LABYRINTH PRODUCED BY QUININE AND SALICYLIC ACID.—Experiments made by KIRCHNER, of Würzburg, on animals have demonstrated to him that the auditory troubles supervening on the ingestion of large doses of quinine and salicylic acid are produced by extravasations of blood into the various parts of the ear.

The functional disturbances are especially grave when the exudation is into the labyrinth; in the middle ear less marked and later symptoms are produced, and the prognosis is always more favorable.

Beside the anatomical lesions of the mucous membrane of the tympanum—red color and slight reddish-yellow exudation with considerable engorgement of the vessels—Kirchner has observed hyperæmia and hemorrhage into the labyrinth in the animals upon which he experimented. In the brain and on the internal face of the skull there was considerable engorgement, notably at the level of the temporal bone; the vessels of the dura and pia mater were markedly engorged. The nervous substance presented no important modifications.

With the microscope, one can see, in the case of animals subjected to these experiments, a marked vascular injection with hemorrhagic extravasations, both into the cochlea and the semicircular canals. The small nerve-filaments subjacent to the fibres of the canal, appear, under these circumstances, to undergo equally profound alterations in their structure and function.

Kirchner gives the history of a case of deafness and cephalalgia, caused by salicylic acid, with vertigo and difficulty of walking straight. Paracentesis and frequent injections of air caused these symptoms to disappear rapidly, with the exception of a slight deafness on one side.—*Annales des Mal. de l'Oreille, du Larynx, etc.*, No. 4, 1883.

HYPOGASTRIC CYSTOTOMY AS A SUBSTITUTE FOR THE PERINEAL OPERATIONS.—PROF. L. VILLENEUVE, in an article on this subject, draws the following conclusions:

1. The hypogastric operation, which hitherto has been used only exceptionally, appears to be coming into more general, though not exclusive, use for the performance of cystotomy.

2. It should be performed with the newly perfected instruments made for it; ballonnement (ballooning the rectum by means of an air-ball), vesical injection, pushing back the peritoneal cul-de-sac, connected siphon-tubes, and antiseptic precautions and dressings.

3. Suture of the bladder should be discarded, but immediate union should always be attempted, which, if realized, shows the great superiority of the hypogastric operation.

4. The hypogastric operation is one of necessity in cases of large and encysted stones, intolerant bladder, and impermeable or strictured urethra or vagina.

5. Especially is the operation to be recommended in old persons and adult men, and in those in which lithotrity is not applicable, and which up to the present time have only been treated by the different perineal operations.

6. In male infants, it may be presumed that it is at least equally as good as the perineal operations. But the happy results obtained by these operations for a long time, render the indications of the high operation in these cases less pressing.

7. In female children, and females at the age of puberty, the hypogastric operation is the method of choice.

8. In married women the question of choice between the hypogastric and vaginal operations is undecided.

9. An inflammatory affection of the uterus, marked deformity of the bladder on account of deformity of the uterus, and notably cystocele, should lead one to adopt the high operation. In adult females the hypogastric operation should be preceded by dilatation of the urethra.

10. Constitutional and diathetic affections have no special indications in selecting the method of operation. The same holds good for lesions of various branches of the sympathetic plexus.—*Revue de Chirurgie*, No. 9, 1883.

CARBOLIZED SAWDUST IN ANTISEPTIC SURGERY.—MR. H. P. SYMONDS, Surgeon to the Radcliffe Infirmary, advocates the use of this material as a dressing for wounds. He says: One of the drawbacks of the usual antiseptic dressing is the rapidity with which the discharges come through on the first day or two after operation, often necessitating the redressing of the case within a few hours. To prevent this, and yet not to interfere with the aseptic condition of the wound, is a distinct advantage both to the patient and the surgeon. The material I have used recently in a considerable number of cases is coarse sawdust, soaked in (1 in 10) solution of absolute phenol and spirit of wine, then allowed to dry slightly so that the spirit may evaporate, leaving the sawdust charged with carbolic acid. When used it is enclosed in a bag made of several layers of gauze, and applied outside the deep dressing, the usual external dressing being put over it. The sawdust thus takes the place of the padding of loose gauze which is generally used. Its absorbent power is very great, and it has the additional advantage of keeping up an equable pressure on the divided tissues. I find that fourteen ounces of sawdust will readily absorb about one pint of fluid.

He reports five cases, two of amputation, two of operation for tumor of the mammary glands, and one of compound dislocation of the elbow, in which it was used. In all these cases primary union took place without any formation of pus. In only one did the temperature reach 100°, and that on the day after operation, after which it became normal. I have not quoted these cases as being at all remarkable, but merely as common instances in antiseptic surgical practice in which the sawdust dressing was used. Surgeon-Major Porter, in *The Surgeon's Pocket-book*, states that he has used sawdust as a dressing in suppurating offensive wounds; but I am not aware that it has been tried,

when prepared in the way I have described, in antiseptic dressing. The three points in its favor are its powerful antiseptic qualities when saturated with carbolic acid, its great absorbent power, and its adaptability to any surface. I may add that the sawdust should be coarse, as I find that if it is very fine it passes through the gauze and irritates the skin.—*Lancet*, September 22, 1883.

EFFECT OF METALLIC POISONS ON THE SPINAL CORD.—The affections of the nervous system produced by contamination with certain metals, as lead and mercury, have been studied more extensively clinically than pathologically, and even yet it may be held to be undetermined whether the action of the poison is upon the peripheral or the central apparatus. Dr. Popow has recently put on record the results of an anatomical investigation upon animals (chiefly dogs) poisoned by arsenic, lead, and mercury respectively (Virchow's *Archiv*, 93, Heft 2), and in most cases he was careful to administer the poisons in varying quantities, so as to contrast the effects of acute and chronic poisoning. The general result of his inquiry goes to show that marked changes of a inflammatory character occur in the spinal cord, both in the gray and white matter, under all these conditions. In acute arsenical poisoning the spinal cord was softened, the gray matter especially being reddened and swollen; there was proliferation of the nuclei of the bloodvessels, and an exudation of a peculiar hyaloid substance. The nerve-cells were swollen, their processes dwindled, and their protoplasm granular or vacuolated, whilst in the white columns the axis-cylinders showed irregular thickenings. In chronic poisoning it was difficult to discriminate between the two portions of the cord, the divided surface having a yellowish-red color throughout; the walls of the vessels were thickened, and hyaline masses abounded; the nerve-cells vacuolated, or shrunken and pigmented; whilst free pigment masses, representing traces of hemorrhage, occurred throughout the sections. In other words, there is, in poisoning by arsenic, a central myelitis at first, and later a diffuse myelitis. Very similar changes were found in the spinal cord after poisoning by lead—namely, exudation from bloodvessels; a general affection of the nerve-cells, beginning as cloudy swelling, and passing into atrophy and pigmentation; and inflammatory swelling of the axis-cylinders. In mercurial poisoning, the early changes consist of hyperæmia of membranes and of the cord, followed by hemorrhages, inflammatory exudation, and changes in the nerve-substance hardly differing from those seen in the other two cases. In each instance the peripheral nerves and the nerve-roots showed no alteration, so that the conclusion is that the paralysis, spasms, etc., characteristic of the toxic effects of these metals, depend upon a central rather than a peripheral disturbance, all the degenerative changes described as occurring in nerves and muscles being strictly deuteropathic.—*Lancet*, September 22, 1883.

INDICATIONS FOR TRACHEOTOMY IN LARYNGEAL TUBERCULOSIS.—Although not often indicated in laryngeal tuberculosis, there are cases in which tracheotomy is necessary. This occurs when attacks of suffocation come on with violent orthopnœa. The situation of the patient is desperate, and the operation must be performed without hesitation. These cases are especially seen in acute phthisis, with caries of the artyenoid cartilages. Besides these cases, the operation may also be performed in chronic phthisis, when the laryngoscope, enabling us to judge of the progress of the lesion, will show the precise time for operating.

It is also observed that in certain circumstances there is alteration of the cricoid and thyroid cartilages; but it is only in cases in which there is caries *en masse* of these cartilages that attacks of suffocation come on. The above-mentioned lesions may be diagnosticated by increase in the size of the larynx, by fistulæ, and by direct examination, which warn the physician to be prepared for any emergency. The operation may prolong life for some time, for observation shows that these grave disorders may be only accompanied by slight pulmonary lesions. In other cases, phthisis produces lesions of the mucous membrane which are indications for tracheotomy. M. GOUGENHEIM has seen cases of true tumors, analogous to cancer, which, limited at first, invade the whole larynx with a fatal result. He reminds us that infiltration of the aryteno-epiglottic folds, called œdema glottidis, is often seen in cachectic and non-dyspnœic diseases, and does not require the operation.

Finally, lesions of the vocal chords are often indications for the operation; sometimes they are tumefied, but mobile, and the danger arises from progressive sclerosis of the glottis; at other times, they are less tumefied, but immovable and near together, the immobilization being due to nervous action (paralysis or contracture). The patients are then in a state which Sestier and Trousseau attribute to œdema of the glottis. Gougenheim has observed compression of the recurrent nerves in a case of this kind. Tracheotomy is obligatory, but here pulmonary lesions are certain, and the patients live but a short time.—*Gaz. Méd. de Paris*, No. 35, 1883.

THE CENTRE OF LANGUAGE.—PROFESSOR RÜDINGER, in a recent contribution to the anatomy of the centre of language, is of the opinion that if the centre of language is in the third frontal convolution, one should find anatomical differences according to the degree of the intelligence of the different living beings. Rüdinger has worked up the matter quite thoroughly in cases of diversely intelligent men, microcephalics, deaf-mutes, and apes of various kinds. In the orang-outang and chimpanzee this convolution is at the surface of the brain, but in the gorilla at the bottom of the fissure of Sylvius. In cases of microcephalic infants who could not talk, this convolution was rudimentary. In a Hottentot it was very small and very short, and was but little developed in a negro's brain.

A comparison of this convolution in the brains of men and women showed great individual differences. The volume of the convolution, and the number of folds and sulci are certainly augmented in proportion to the degree of intellectual activity. In the case of an advocate, distinguished as an orator, Rüdinger found that the third frontal convolution of the left side measured twenty-three centimetres, while that of the right measured only sixteen. There was an equally remarkable difference in the case of the German philosopher Huber. In the case of Buhl, celebrated for his works in pathological anatomy, the third *right* frontal convolution was much larger; a fine performer on the violincello, he naturally used his left hand a great deal in touching the strings.

In all the men of inferior culture, the symmetry is reëstablished between the two convolutions. In deaf-mutes, the third left frontal convolution was *always* small, while on the right side it was as large or a little larger. The fact established by these researches, says Rüdinger, is that apes and microcephalics have only a rudiment of the third left frontal convolution; that in deaf-mutes this convolution, though not rudimentary, is very simple; and that in orators it presents an extraordinary development. The hypothesis, then, that the faculty of language is situated in the lateral part of the frontal lobe is more than probable.—*L'Encéphale*, No. 3, 1883.

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SATURDAY, OCTOBER 13, 1883.

IS EXTIRPATION OF THE CARCINOMATOUS RECTUM A JUSTIFIABLE OPERATION?

IN the third part of vol. xxix., 1883, of the *Archiv für klinische Chirurgie*, will be found a report from the pen of his assistant, Dr. Heuck, of the experience of PROFESSOR CZERNY, of Heidelberg, in regard to the operative treatment of carcinoma of the rectum, from which we glean many interesting facts that will be utilized, in common with the statistics furnished by other operators, in our effort to solve the query which constitutes the title of this article. In the issue of THE MEDICAL NEWS of September 22, we briefly indicated that extirpation of the thyroid gland for malignant growths was attended with a mortality of 57 per cent., and in the subsequent number we expressed the opinion that the vaginal extirpation of the uterus for carcinoma was an operation full of promise. As the entire subject of the removal of the various organs for carcinoma is one of very great practical interest, our readers may look for an additional article in the near future on resection of the cancerous pylorus.

The experience of Czerny relates to 25 extirpations of the rectum, of which 1 died of septic peritonitis. In 15, or 60 per cent., there was recurrence, which took place, on an average, in a little more than eleven months. Of the 9 patients who remained free from a return of the disease, 2 were living more than four years after the operation, 1 was living at the end of three years and eight months, 1 was alive at the expiration of two years and a half, 2 were well at the end of two years, 1 was alive at the conclusion of one year, and 2 were alive at the end of six months. In 1 of the cases the disease had existed before removal for four years; in 3 for three years; in 3 for two years; and in 2 for less than a twelvemonth. These facts are remarkable, since they show that a carcinomatous rectum of long standing may be extirpated with a very fair prospect for final relief.

The death-rate of the operation appears to be improving with increased experience. Thus, Billroth, up to 1876, had lost 19, or 42.2 per cent., of his 45 cases; and Rose, up to 1877, had lost 8, or 50 per cent., of his 16 cases. Kocher, on the other hand, up to 1879, had lost only 2, or 20 per cent., of his 10 cases; while, as we have just pointed out, Czerny, up to 1882, had lost only 1, or 4 per cent., of his 25 cases. The success of the Heidelberg surgeon will be seen to be the more astonishing when we inform our readers that, in consequence of the high position of the neoplasm, he opened the peritoneum in 11, or 44 per cent., of his cases. In 6 the wound was closed with sutures, and it was left open in 5, the fatal case coming under the latter category.

The average duration of life in carcinoma of the rectum has been ascertained to be two years. Hence, with the results of Czerny to guide us, we are justified in concluding that the six cases which were living free from recurrence for periods varying from two to four years probably represent permanent recoveries. Lest this number may be deemed too limited to represent the actual state of facts, we have to add to the cases of Czerny 198 additional ones of which we have a record. Of the entire number, or 223, 180 recovered, and 43, or 19.3 per cent., died. Of 142 in which the final result is known, 64 remained well for periods varying from two months to ten years, and 78, or 54.9 per cent., recurred. Omitting the cases in which the recovery at the date of the last report had lasted only from two to sixteen months, we have 35 cases in which there was no reproduction of the disease for two years and upwards, 13, indeed, having remained well for between five and ten years, so that 15.7 per cent. of the entire 223 were in all probability permanent cures. If three years and upwards be regarded as still better representing a probable immunity from recurrence, the 28 cases which come under this category show 12.5 per cent. of cures; while the 21 cases which represent four years and upwards make the number of cures 9.4 per cent. With these results before us, and they are far better than have as yet been secured for carcinoma of other organs, we have no hesitation in answering our self-imposed question in the affirmative.

In conclusion, we may add a word in regard to the operation, as the surgeon may be tempted to save a strip of apparently sound mucous membrane

or a piece of the sphincter, but the experience of Czerny is condemnatory of this practice. Thus, in 8 cases in which all the tissues were removed, recurrence was witnessed in only 3; while in 8 others in which portions of the mucous membrane or the margin of the anus were left, recurrence occurred in 6. In addition to these pregnant facts, Czerny teaches, and Billroth agrees with him, that, by trying to save too much, the discharge of the secretions is interfered with, and the dangers of septic infection are greatly increased.

CALCULOUS DISEASE OF THE PANCREATIC DUCT.

THE subject of calculous disease of the pancreatic duct has always been shrouded in a good deal of darkness, partly because the isolated instances of it have occurred at such long intervals, and the published accounts of them have been so scattered throughout medical literature that it has been impossible for any one to compare them. In THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, however, for October, will be found a most valuable paper on this subject by DR. GEORGE WOODRUFF JOHNSTON, in which have been collected, probably without exception, all the published cases of this disease. The paper is part of an inaugural thesis, written by Dr. Johnston for the doctorate in the University of Pennsylvania. It bears the stamp of painstaking and laborious research, and is worthy of careful perusal.

There are three modes in which calcareous concretions are found in the ducts of the pancreas. 1. As free concretions. 2. As calculous incrustations of the duct-walls. 3. As "acne pancreatica." Of these the first include by far the greatest number. By "acne pancreatica" is meant a condition so named by Klebs, in which the normal pancreatic secretion is converted into a thick chalky pap. Of this the instances are few. The free concretions are found anywhere in the pancreatic duct or its branches, or in both.

The chief cause of pancreatic calculi is some obstruction to the free outflow of the pancreatic secretion which favors the accumulation of the pancreatic juice and subsequent precipitation of its inorganic constituents. But cases have been reported of calculous disease of the pancreas where no obstruction of the ducts was present, showing that some other influence than obstruction must be at work to produce such a change in the composition of the pancreatic fluid as to cause a precipitation of inorganic matters and the formation of calculi.

That a change in the normal composition of the fluid must take place, is evident from a comparison of the composition of the calculi with that of the fluid. The former contain large proportions of lime salts—phosphates and carbonates usually—where analyses have been made, about ninety per cent., whereas the pancreatic fluid contains but traces of lime. The same difference, although in less degree, exists between the composition of salivary calculi and the salivary secretion. The causes of these changes in composition of the pancreatic and salivary fluids which result in such precipitation, says Dr. Johnston, "must still remain a matter of doubt." He says it is possible that physiological variations which are occasionally present, may become sufficiently permanent to permit the precipitation to occur; or that local changes in the secreting tissue of the pancreas or its ducts, may produce such an influence upon the secretion as would lead to the crystallizing out of its less soluble salts. But he has shown us that the composition of the resulting calculi is different from that of the fluid, that the salts indeed which make them up are scarcely represented in the normal composition of the fluid. So that there must result, first, a fluid which differs in composition from true pancreatic fluid. We think it much more likely that his second alternative, that local changes in the secreting tissue of the pancreas are at the bottom of these changes in the composition of the fluid, is the correct one. And we think it likely that these changes are the result of inflammation. Everywhere do we see that inflammatory new formations present a tendency to calcareous infiltration; and we know well that obstructed secretion everywhere gives rise to a certain degree of inflammation. Hence it is not unlikely that in the cases in which the calculous formation is an incrustation of the duct walls, it results directly from the calcareous infiltration of the inflammatory product itself, or of the tissue permeated by it, just as do the calcareous plates in a chronic endarteritis. Such inflammations, also, may be expected to change entirely the composition of an otherwise normal secretion. In this way, too, may be best accounted for those calculous formations which occur without obstruction in the pancreatic ducts. They are the result of inflammatory processes excited by other causes than obstruction.

Of some practical importance in connection with this subject is the question whether pancreatic calculi are ever discharged into the duodenum with the symptoms which attend the passage of biliary calculi—pain, colic, and jaundice. This cannot be denied, as it is evident that the same symptoms must accompany such discharge. On the other hand, since the symptoms would be identical, it would be impossible to decide between the two, except on the ground of the much greater frequency of hepatic colic. Should, however, such symptoms be associated with an evident tumor to the left of the umbilicus, suspicion of pancreatic calculus would be

justified. But we do not know that the treatment would be different if the diagnosis could be made. In one case perforation of a pancreatic calculus caused fatal peritonitis.

The presence of pancreatic calculi must, of course, give rise to secondary results, among which dilatation and the formation of cysts and inflammation are the most likely. The degree of the former may be anything between that of a goose-quill and that of a child's head, and the latter may result in enlargement, atrophy, or suppuration. All of these alterations may give rise to physical conditions which may demand rare skill in their diagnosis from other abdominal affections.

The interesting question as to the relation of pancreatic disease to melliturıa is referred to by Dr. Johnston without, however, adding to our knowledge of the subject. In four of the cases of pancreatic calculous disease, diabetes was supposed to be the cause of death, Dr. Johnston is inclined to ascribe the phenomenon of glycosuria to secondary changes in the cœliac ganglion produced by the presence of a pancreas made large and hard by the presence of calculi; while atrophy of the pancreas will follow changes in the cœliac plexus, as atrophy of the submaxillary gland will follow section of the vaso-motor nerves supplying it. But that there is something more than the effect of pressure of an enlarged pancreas which produces the glycosuria in cases of diseased pancreas, we think is evident from a case of our own—a case of most obstinate diabetes, attended with fatty diarrhœa, and terminating fatally—in which the autopsy revealed calculous plates in the duct walls, but no marked enlargement—at any rate, none sufficient to produce pressure upon the cœliac plexus. In such a case as this, however, there might still be a reflex influence from the pancreas to the cœliac ganglion which would cause the glycosuria.

Notwithstanding the supposed frequent association of pancreatic disease with fatty stools, but three of the cases collected by Dr. Johnston exhibited this symptom. Of these, in two there was also fat in the urine, the quantity in one instance being so great that it made its appearance one month before it was detected in the stools, and in such quantity as to float, when cool, in greasy flakes upon the surface. We can scarce conceive such a condition as this without supposing some communication between the intestinal canal and the urinary passages.

The profession is much indebted to Dr. Johnston for his paper. We hope it will so direct attention to the subject that further accurate knowledge will grow out of it, and that not only more accurate diagnoses will become possible, but some therapeutic measures may also be evolved.

PORRO-CÆSAREAN SECTION.

In another column we present the record of the fifth Porro operation performed in this country. The prognosis in this case was necessarily unfavorable. The age of the woman, her life of poverty and intemperance, the condition of her arteries, and, above all, the presumed change in her kidneys, made the risk in operating upon her unusually great.

Of 116 Porro and Porro-Müller cases, tabulated by Dr. R. P. Harris, in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for October, 1883, where the pedicle was dressed externally; operated upon in Italy, Austria, Germany, France, Belgium, Switzerland, Great Britain, Russia, Holland, Spain, and the United States, this one stands alone in regard to the kidney complication, and its effect as a factor in leading to a fatal issue. But for this, the case would have compared favorably with many which have recovered in European hospitals. The fact that the patient died comatose; that her kidneys secreted but +℥iij of urine in forty-two hours, and that these organs presented evidences of disease to the eye and under the microscope after her death, shows the extra risk in the operation performed upon her. The subsequent death of the fœtus was no doubt due to its imperfect nutrition in utero, to its being somewhat premature, and to the unhealthy state of the mother. Where the mother has been healthy, and her own and her child's life saved under abdominal delivery in this country, the life of the latter has usually been prolonged, and even in cases where the mother was lost, the child has been saved to grow to maturity. Several of the subjects of Cæsarean delivery have reached advanced life in the United States, the oldest known being sixty-eight and seventy-four years respectively. Several of the children have been heads of families, and one in this city is now forty-eight years old, and has given birth to eight children.

The Porro operation thus far in the United States presents from its results no special advantage over the Cæsarean section (old style); but the results in European hospital practice show very decided advantages in a largely lessened mortality. In the United States, no hospital Cæsarean case has resulted in saving the mother, the record standing six operations and six deaths. The Porro-Müller operation of Dr. Parish is the first of its kind in an American hospital, and not by any means a test case. In all obstetrical cases in our maternities requiring abdominal delivery, we believe the result obtained with the Porro operation in the old Santa Caterina Hospital, of Milan, of saving 75 per cent. should be taken as an example against our universal death-rate in such institutions with the old method; and the operation of Porro should be put to the test

where the disadvantages incident to delivery in hospital as compared with the advantages in private practice are to be overcome.

THE BRAIN TRANSFIXED BY A RAMROD, WITH RECOVERY.

IT has long been known that the integrity of the cerebral hemispheres is not essential to the continuance of life, and that they may undergo considerable morbid change or mechanical injury, accompanied by extensive loss of substance, without fatal result, or even serious impairment of the vital functions.

Bearing upon this point, FISCHER reports, in the *Deutsche Zeitschrift für Chirurgie* (Bd. xviii.), an interesting case of an accident which occurred during the unloading of a carbine, by which the brain was transfixed by a ramrod, without fatal result. The ramrod, which was of iron, entered the thorax to the right of the fourth dorsal vertebra, passed upwards in the deeper tissues of the right side of the neck through the base of the skull and brain, and projected to the extent of thirty centimetres out of the left side of the head. After an opening had been made into the neck, the rod was driven backward through the skull, by the strokes of a hammer, and taken out at the neck. The patient recovered, except that he remained blind in the right eye.

An effort to imitate the injury on the dead body showed that in the neck no important vessel or nerve was injured, that the instrument entered the cavity of the skull through the right optic foramen, tore the optic nerve, and then entered the space between the two frontal lobes, and penetrated the brain only to the slight extent of three centimetres, and wounded only the anterior edge of the left superior frontal convolution.

This case is similar to that reported by Bigelow in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for July, 1850, in which a pointed iron crowbar was driven through a man's head by the premature explosion of a blast. The bar entered the left side of the face, near the angle of the jaw, and passed obliquely upward inside the zygomatic arch and through the anterior part of the cranial cavity, emerging through the frontal bone in the median line, in front of the union of the coronal and sagittal sutures. This patient became delirious and comatose, but subsequently also recovered, although with loss of vision in the eye of the injured side, and lived for twelve years.

THE ROLE OF HYDROCHLORIC ACID IN GASTRIC DIGESTION.

THE office of free hydrochloric acid in stomach digestion has been the subject of investigation lately by an ingenious method. By means of Kussmaul's pump, the contents of the stomach are withdrawn at any stage of digestion for the purpose of study. A new reaction for the acid now enables the operator to distinguish with some precision hydrochloric from any organic acid. By the application of this method, it has been ascertained that hydrochloric acid disappears from the stomach-juice in typhus and typhoid fevers, to reappear again when convalescence is established. In carcinoma, the absence of free hydrochloric acid has been demonstrated. This fact is not explained by the condition of feebleness, but is clearly due to the cachexia. Hence, if in a case of extreme weakness due to stomach-disease, free acid is present in the stomach juice, the case is not one of cancer. The disappearance of the acid cannot be referred to the chemical action of the cancer-juice, since the acid is wanting when there is no ulceration. In this way Van Velden diagnosticated cancer, and the autopsy confirmed his opinion. In another case, the symptoms of a neoplasm being present, cancer was excluded because of the presence of free acid in the stomach-contents.

In another series of researches, Van Velden has shown that saliva mixed with the aliment entering the stomach, does not act on starch when there is no free hydrochloric acid. There are, hence, two phases or periods of the stomach digestion: the first, when the action of the saliva still continues to be manifest; the other coincides with the presence of free hydrochloric acid. It is in the course of the latter that peptones are produced in quantity.

These observations have not gone unquestioned. Ewald maintains that the reactions relied on by Van Velden are vitiated by the presence of albuminates, blood, etc.; that in many cases of carcinoma the reaction of hydrochloric acid still occurs; and that the two periods of stomach digestion do not really exist. Van Velden in reply, however, reaffirms his original positions. The questions thus raised must therefore be regarded as still *sub judice*, but they offer an interesting subject for further inquiry.

CONTINUED FEVER AT ASBURY PARK AND OCEAN GROVE.

A FEW cases of continued fever and two recent deaths seem to show that Asbury Park and Ocean Grove have but just escaped a typhoid epidemic. The facts, however, are creditable to the health authorities. The trouble arose with those householders who would not connect with sewers, or who had, before the sickness, been notified as maintaining nuisances. In one case, a well was only eighteen inches from a boarding-house water-closet. The examination of the water showed the

false security of a driven well when located near surface nuisance. Two cases have occurred in which driven wells have become saltish. In both cases the next neighbor kept an ice-cream saloon, and threw the freezing mixture on the ground. The other case of death occurred where the rear wall of the hotel formed the wall of the privy, the contents of which had leaked into the cellar so as to become ponded.

Engineer Owen, of New York City, has just made an elaborate report of a plan for the sewerage of Orange City. It contemplates the filtering, precipitating, and utilization of the sewage.

REVIEWS.

De L'Excision du Goître Parenchymateux. Par Le docteur Paul Liebrecht, Assistant d l'Universite de Liége. (Ext. du Bul. de l'Acad. r. de Médecine de Belgique, 3e Sér., t. xvii. No. 3.) 8vo. pp. 270. Bruxelles: H. Manceaux, 1883.

Excision of Parenchymatous Goitre. By Dr. Paul Liebrecht, etc.

This work contains, besides a review of the history of the subject and a careful description of the method of operating, a detailed account of 322 operations for the excision of goitre, with a careful analysis of them, and the conclusions to which this analysis has led the author. These conclusions are altogether favorable to the more frequent adoption of the operation than has heretofore been generally deemed advisable. They also indicate the author's preference for total as compared with partial excision, and for the method called antiseptic, *without* the spray. The facts cited by Dr. Liebrecht seem to confirm his opinion that the dangers of thyroïdectomy have heretofore been much overrated. For, when we come to look over his analysis we find that primary hemorrhage was the cause of death in only 7 out of 356 operations, and secondary hemorrhage in only 4—which scarcely warrants the common dread of these accidents. So when we examine to discover the effects of accidental injury to the inferior laryngeal nerve—another of the terrors of the operation—we find that these effects have been surprisingly harmless and transitory. So that it would appear that the author is right in claiming for excision of the diseased thyroid gland, a position in surgical practice equal to that of the removal of other tumors of the neck. It is interesting to observe that his statistics show a progressive diminution in the death-rate from year to year, an indication that the objections to this operation, however well founded, are only such as may be overcome by skill and care. This being the case, it is not unlikely that even the moderate death ratio of the present day—the author would make it only about 8¼ per cent. from inevitable causes—may be reduced yet more, and the operation meet with the general adoption which he urges. But, however this may be, he deserves great praise for the diligence and care with which he has gathered together and recorded the evidence upon which his own opinions rest, and upon which any one else may build, if he will, an opinion of his own.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, October 4, 1883.

The President, R. A. Cleemann, M.D., in the Chair.

Dr. W. H. Parish reported a

PORRO-MULLER OPERATION,

and exhibited the uterus, the abdominal incision (which had united), and surrounding wall, the stump of the cervix in position at the lower angle of the wound, the entire external genitals and mons, including the vagina and bladder. The ureters were found entirely free. (For a full report of this case, see page 398.)

Dr. R. P. Harris remarked that this was the only Porro operation that had been complicated by diseased kidneys. The case was an unfavorable one in consequence of this complication. The albuminous character of the urine was supposed to be due to mechanical interference by the enlarged womb, but unfortunately this was not so. The bad habits of the patient had led to a general disease of the arteries as well as of the kidneys. The former were atheromatous. The Porro-Müller operation has been performed thirty-four times, the modified Porro eighty-two times, total, one hundred and sixteen cases, of which forty-eight per cent. have been successful in saving the lives of the mothers. When the pedicle or stump is dropped, it ceases to be a Porro operation. Of thirteen cases in which the stump has been dropped, eleven have been fatal. Dr. Godson is writing a full history of this operation, including the many experiments which have been made in animals to determine the best method for each step of the operation, and the cause of death. Dr. Porro has saved four out of five cases in his own hospitals. In the Milan Hospital, nine were saved out of twelve. In Germany the success has been poor, but in Austria better.

Dr. O'Hara asked why the Porro operation should be modified when it had been so successful in the hands of the originator.

Dr. Harris.—Dr. Müller was called upon to operate in a case in which the fœtus had been dead for some time and was putrid, the uterus being distended with gas. To prevent any septic matter finding its way into the abdominal cavity, he enlarged the abdominal incision, lifted the uterus out of the abdomen, and used cloths around it and over the wound before incising the uterus. This patient recovered. The mortality this year has been very slight.

Dr. E. E. Montgomery had been associated with Dr. Parish in this case, as one of the hospital staff, and at first thought the case should be allowed to go on to full term before operating, and that Cæsarean section or laparo-elytrotomy, as practised by Dr. T. G. Thomas, should be the selected form of operation; but Cæsarean section has been very fatal in large hospitals, doubtless because it is generally a last resort after the patient has been long hours in labor, and for that reason is dangerous. But if a large drainage-tube was passed through, entering at the abdominal incision and out of the vagina, and a constant flow of antiseptics kept up, a good condition might be secured.

During the operation, a few modifications suggested themselves; one of these was to divide the cervix uteri by a V-shaped incision, the peritoneal surfaces being united over the wound, a flat Peaslee drainage-tube being introduced, and the stump dropped. Dr. Harris tells me that this has been tried, but resulted unsuccessfully.

He thought the wire of the écraseur passed around

the cervix before removing the child a source of danger to the latter, as well as being likely to embrace a loop of intestine.

DR. HARRIS, in criticising the plan of dropping the stump, called attention to the fact that the portion of uterus embraced in the ligature is not a pedicle, it is a stump, and will continue to contract, and oozing of blood, or even profuse hemorrhage, is liable to occur. It has been found impossible to prevent this by any form of ligature that has been tried. If the stump is dropped, this hemorrhage or oozing will take place into the abdomen, and will be a certain cause of death. Dr. Isaac E. Taylor came near success, but his patient died from thrombosis on the twenty-sixth day, during an attack of phlegmasia alba dolens. It would be very desirable to avoid the dragging on the abdominal wound.

DR. MONTGOMERY gave a short *résumé* of the cases treated by dropped stump and the causes of death in them.

DR. PARISH remarked that the disease of the kidneys was undoubtedly the cause of death, the implanting of the acute condition caused by pregnancy upon the previous chronic disease. He also spoke of the possibly deleterious effect of the ether upon the system laboring under such a condition of the kidneys. It made the administration of ether in such cases a very serious matter.

DR. PARISH also exhibited specimens from a case of

EXTRA-UTERINE PREGNANCY,

and made some remarks upon the history of the case. He had attended the patient in her first labor seven years ago. She was a brunette of very restless and active habits and disposition, and was quite uncontrollable; she was up and about her house a few days after her labor, and the result was sub-involution, which persisted until her death. During the interval she had passed out of his care and had been subjected to local treatment, including the use of sponge tents, these had developed pelvic inflammation, and later she was troubled with frequent micturition and dysmenorrhœa. She afterwards came under his care again for treatment of these troubles, and on one occasion he had applied leeches to the cervix and gave her positive orders not to leave her bed, but festivities were going on and she went down and assisted in making ice-cream and cake and later in eating them; this indiscretion was followed by a second metritis. He afterwards treated her for the dysmenorrhœa by numerous minute punctures of the cervix and the application of tincture of iodine, and the introduction of a sponge tent.

The next period was not so painful, and the second was missed. He told her she was probably pregnant; but two weeks later a slight show occurred, and, fearing an abortion, he advised rest in bed. She refused an examination, and would not be quiet. The flow continued, but did not increase; and there was pain in the pelvis in addition. Eleven days after the flow commenced, a sudden attack of intense pain occurred; the patient was completely prostrated, and was carried up-stairs. As he was not at home, Dr. O'Hara was called in, and used morphia hypodermatically. He found, on examination, a mass in the posterior part of the pelvis; the uterus was pushed forward against the pubes. He diagnosticated rupture of a Fallopian-pregnancy cyst, and internal hemorrhage, and gave opiates to relieve the intense pain. The pallor and exhaustion became more pronounced, and death occurred thirty hours after the first symptoms. Other physicians who saw the patient did not agree with Dr. Parish in his diagnosis. The autopsy revealed no recent peritonitis; there was blood in the pelvic and abdominal cavities; this had escaped from a ruptured cyst of the Fallopian tube. The fœtus exhibited was found free in the pelvic cavity. The position of the cyst was such that it would have been an easy operation to open the abdomen, and ligate and remove the cyst and ovary, and cleanse the pelvic cavity. The Fallopian tube involved is dilated, except at the uterine extremity. The other tube is occluded at the fimbriated extremity; inflammatory bands derange the relations of the different pelvic organs. We have here the history of inflammatory processes changing the epithelial linings and relations of the Fallopian tubes to the uterus and ovaries as predisposing causes of extra-uterine pregnancy.

DR. HARRIS remarked that the hemorrhage after conception, the peculiar location of the pain, and the pallor make the diagnosis an easy one. He had one patient that recovered spontaneously. The operation suggested by Dr. Parish has been performed once successfully. Dr. T. G. Thomas made the diagnosis in another case and wished to operate, but the husband, a physician, differed in opinion and would not consent; that patient lived sixty hours after the accident. Dr. Playfair in his book advises the operation.

DR. O'HARA saw the case early and could not make such a diagnosis; he saw no sign of internal hemorrhage then; he thought of peritonitis or cellulitis; there had been no history of a decidual cast of the uterus. He did not see how a positive diagnosis of extra-uterine pregnancy could have been made at that time. The patient was certainly going to die, and he would approve of an exploratory operation.

DR. PARISH remarked that Dr. O'Hara was perhaps right; he (Dr. P.) was the only physician present who looked at the case in that light, all the others disagreed and had their reasons. If this diagnosis of a probable extra-uterine fœtation had been made early, before the accident, then when the acute symptoms supervened a quick diagnosis could have been made as to the cause of the pain. He described a fold of peritoneum found behind the uterus, and as the clot had the appearance of different ages, portions being yellow, he suggested that an extra-peritoneal hemorrhage had first occurred under this fold, perhaps ten days before the intra-peritoneal hemorrhage which was the cause of death.

ACUTE GANGRENE OF THE ILEUM.

DR. BEATES reported the case of an infant which appeared well and hearty at birth, but died in collapse on the third day. An autopsy revealed acute gangrene of the mucous surface of eight feet of the ileum; hemorrhage had occurred into the intestine and was the immediate cause of death.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 4, 1883.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

THE first meeting of the Academy after the summer recess was held on Thursday evening, October 4th.

Previous to the meeting, the President, Dr. Fordyce Barker, issued the following circular:

"I assume that every Fellow of the New York Academy of Medicine must regard it as a most unfortunate event that anything should occur to interrupt its fraternal harmony, its useful work, and its progressive growth. While we cannot shut our eyes to the fact that this is the present condition of the Academy, it would be both useless and unwise to discuss the causes which have brought about this state of things, because, from their nature, they involve questions on which the most able, the most loyal, and the most

conscientious men in the profession honestly differ. Let us accept this fact as inevitable, and that the Academy can do nothing which will effectively advance the interests of the profession by way of discussions, which irritate, but do not change convictions, or by arbitrary regulations, secured by shrewd tactics, but which carry no moral force.

"The Academy of Medicine is not fulfilling its mission when it is engaged in warm discussions of questions of casuistry, in polemical controversies, or in medical politics.

"The *Ephemeris* of Dr. Squibb quotes with approval an editorial from the *Boston Medical and Surgical Journal*, which contains the following sentence: 'The lesson also is so obvious that he who runs may read, that the more our Societies confine themselves to their proper field—the joint cultivation of medical science and good-fellowship—and the less they meddle with medical politics, the better will it be for their own future and the common good of the profession.'

"It seems to me that the truth of the above sentiment has been unfortunately, but clearly demonstrated by our Academy of Medicine.

"The question which we have now to meet is: What measures can be taken to secure for the Academy a return of its prosperity? by which I mean a restoration of its fraternal harmony and good memory of the past. The anodyne draught of oblivion is the first specific remedy for healing such ills as those under which the Academy is now suffering.

"The next point to be secured is such a change in our organic laws as will make it impossible that trouble and danger can ever occur again in the Academy.

"At our first meeting in October, certain amendments to the Constitution and By-laws will be proposed for discussion, and at the following meeting they will be submitted to the vote of the Academy.

"Every change proposed has been the result of a most careful study of the subject, and has a distinct purpose which will be obvious to all.

"I think that it will be apparent that the whole intent of the proposed amendments is to make the Academy of Medicine a purely scientific society, independent of all other organizations, to place its standard of ethics on a higher plane than before, and to prevent the possibility of any future troubles by the introduction of matters foreign to its avowed objects."

Accompanying this circular was a copy of the proposed amendments.

In consequence of this circular, the Council of the Organization for upholding the National Code of Medical Ethics in the State of New York, which consists of Drs. Abram DuBois, Austin Flint, Austin Flint, Jr., J. W. S. Gouley, John H. Hinton, Samuel T. Hubbard, William T. Lusk, Samuel S. Purple, and T. Gaillard Thomas, sent out the following communication to the Fellows of the Academy:

"The Council of the Organization for upholding the National Code of Medical Ethics in the State of New York beg to call your attention to a circular recently issued in which are proposed certain amendments to the Constitution and By-Laws of the New York Academy of Medicine.

"The Council cannot but regret the issuing of this circular as a covert movement, under a plea for harmony, in behalf of the organized effort in opposition to the National Code of Ethics. The proposed amendments, were they adopted, would eliminate from the Constitution and By-Laws everything relating to ethics, and surrender the Academy to those who advocate the abolition of all ethical codes. The Academy would thereby be deprived of the right of representation in the American Medical Association, and of affiliation with other medical organizations out of the State of New York.

"It may be assumed that there is no disposition on the part of those who are for upholding the National Code of Ethics to raise any discussion respecting the Code in the Academy. The Code has never been made a subject of discussion in the Academy by any one in favor of upholding it, and there is no ground for the supposition that it ever will be, unless it becomes necessary in the way of defence. The resolutions presented and adopted at the last meeting of the Academy had for their object the prevention of any future discussion relating to the Code.

"Every true friend of the Academy is earnestly requested to attend its meetings in order to resist the introduction of discussions and controversies in relation to ethics, by simply maintaining, in their integrity, the time-honored Constitution and By-Laws of this Institution, to which it owes its origin and prosperity."

At the meeting, after the reading the minutes, DR. AUSTIN FLINT, SR., rose to a question of privilege, and he then made a personal explanation. Since the last meeting of the Academy, he said, he had been repeatedly accused of inconsistency because he had voted for the resolutions then adopted, after having a year previously, offered a motion that all discussion of the question of medical ethics be indefinitely postponed in the Academy. He wished it to be distinctly understood, however, that he had acquiesced in the action then taken for the express purpose of permanently banishing all such discussion. He certainly did not want the question to come up again in the Academy, and would do what he could to prevent such an unfortunate occurrence.

THE SECRETARY then read the following

COMMUNICATION FROM THE COUNCIL:

HALL OF THE NEW YORK ACADEMY OF MEDICINE,
October 4, 1883.

At a special meeting of the Council of the New York Academy of Medicine, held Monday evening, October 1, 1883, it was

Resolved, That the Council advise in the interests of the Academy and of peace and harmony that the proposed amendments to the Constitution and By-Laws be withdrawn.

Resolved, That the Council, after careful and mature consideration, do not approve of the proposed amendments to the Constitution and By-Laws.

THE STATISTICAL SECRETARY, D. F. V. White, read obituary notices of Drs. James L. Banks, Bronley Livingstone, Charles Wright, and Joseph Mosier, Fellows of the Academy, who had died since the last meeting; after which Dr. E. D. Hudson, Jr., Chairman of the Library Committee reported a large number of donations to the library.

DR. EDWARD L. KEYES then moved the adoption, as a whole, of the following amendments to the Constitution and By-laws, recommended by the President; and in doing so remarked that he had undertaken to do this purely out of his personal regard for Dr. Barker, and his firm conviction that the amendments were for the best interests of the Academy. Their adoption, he thought, would offer an easy path to the solution of the difficulties which it was now encountering, since a neutral ground would thus be constituted on which all could stand alike. He was the agent of no party or faction, and had no connection with any, but stood for himself alone. He was not a New-Code man, but simply a supplicant for peace.

DR. ALFRED L. LOOMIS seconded the motion for the adoption of the proposed amendments, and remarked that he was fully convinced that grave dangers now threatened the prosperity and almost the existence of the Academy; but by adopting the amendments we place ourselves in a position in which such a state of

affairs could never recur in the future. The discussion of medical ethics and politics would be banished for all future time. There were other Societies where all such questions legitimately belonged; but the Academy ought to be devoted solely to scientific work, and the promotion of good-fellowship in the profession. He would, therefore, urge their adoption, *first*, on the ground of the expediency; *secondly*, because medical ethics had no place in such a Society; *thirdly*, because if such questions are admitted, they would lead only to bitterness and dissension. Finally, he hoped that all present would endeavor to support the President in his efforts to save the Academy from degeneracy and perhaps destruction.

PROPOSED AMENDMENTS

CONSTITUTION.

Article VI. Section 1.—Strike out—2, A Committee on Medical Ethics; 3, A Committee on Medical Education.

Read: 1, A Committee on Admissions; 2, A Committee on Library.

Article VIII.—Strike out the whole as it now stands.

Read: The Academy reserves the right of discipline by admonition, suspension, or expulsion, by which all rights and privileges as a Fellow are forfeited, for violation of its By-Laws or Regulations, for unprofessional, ungentlemanly, or dishonorable conduct, and for public immorality and great crimes.

BY-LAWS.

By-Law X.

Strike out third paragraph in third sentence. Also strike out last sentence, for which read: Five members of the Council shall constitute a quorum for its ordinary meetings, but a majority of the Council shall be necessary for a quorum at its annual meeting in December, and at special meetings called by the President.

Add to *By-Law X.* as follows:

Section 2.—The Council, specially convened by the President for the purpose, shall have the power to inquire into any alleged infringement of the By-Laws or misconduct by any Fellow of the Academy, on a written charge, signed by three Resident Fellows; and the Fellow whose conduct is in question shall be invited to attend. If, after investigation, the charges are sustained by a majority vote of those present, the Council may determine by a majority vote whether the punishment shall be a private admonition or a public reprimand by the President at a meeting of the Academy (whether the offender be present or absent), or suspension for a definite period.

Bnt in case the charge is of so grave a character that the Council, by a vote of two-thirds of those present, considers that the offender should be expelled, the report of the Council and its recommendations shall be referred to the Academy, of which due notice shall be given to every Resident Fellow four weeks previous to its final action. The vote shall be taken by ballot, and two-thirds of those cast shall be necessary to sustain the vote of expulsion.

By-Law XIII.

Strike out Section 3 as it now stands, and read as follows:

Section 3.—The Committee on Admissions, upon receiving from the Recording Secretary the names of the candidates proposed for Fellowship, with their professional credentials, shall make due inquiry concerning them as regards their personal character, their standing in the profession, and their eligibility as persons of honor, who do not assume peculiar designations, implying special modes of treatment.

Add to *By-Law XIII.* Sections 4 and 5, as follows:

Section 4.—The Committee shall report within three months such as may be deemed worthy of admission, and if for Resident Fellowship, the report shall specify the source whence the nominees derived their diplomas or license to practice, with the dates thereof.

Section 5.—If this Committee fail to report within the time specified upon any nomination submitted to them, any Fellow of the Academy may renew such a nomination; and, if this be seconded, a vote shall be taken, it being distinctly stated that the nomination has not been approved by the Committee on Admissions.

Strike out By-Laws XIV. and XV.; the subsequent By-Laws to be numbered XIV. consecutively to XXIV.

XXV. (new number as amended XXIV.):

Add: And all resolutions, except such as relate to its formal routine business, must be offered in writing at the meeting two weeks previous to the final action, and printed on the notice of such final action.

DR. AUSTIN FLINT, JR., moved that the amendments take the usual course and lie over for two weeks. DR. C. C. LEE moved, as an amendment, that the Academy go into committee of the whole for their discussion. Dr. FLINT claimed that such an amendment was not in order, but the Chair having decided that it was admissible, it was amended and carried.

The President appointed Dr. Elsworth Eliot Chairman of the Committee of the Whole, and Dr. W. W. Carpenter was then appointed Secretary of the same.

DR. ELSBERG moved that, when the Committee rose, it should report to the Academy in favor of the amendments, but, before the motion was put to vote, DR. ROOSA called on Dr. Barker for a statement of his views in regard to the proposed changes in the Constitution and By-Laws.

DR. BARKER, after some preliminary remarks in which he said that he wished, as far as possible, to avoid everything that was connected with codes of ethics, he went on to say that after the action of the State Medical Society, in 1882, it was feared that the discussion of the questions raised by it would do great injury to the Academy, and interfere with its scientific work. In the April following, however, one who was esteemed and respected everywhere that medical literature was found (Dr. Flint), introduced a resolution to the effect that all matters pertaining to the Code should be indefinitely postponed. This was adopted unanimously, and the work of the Academy went on in the greatest prosperity until the proposal of the resolutions adopted at the last meeting, which had completely changed the aspect of affairs. Without wishing to cause the slightest ill-feeling, he could not but express the opinion that this action was most injurious to the Academy; imperilling its harmony and interrupting its progress. It divided the members into two parties, and on account of this it was impossible to elect any new Fellows. Without consulting with anyone, he set to work to discover some means by which this difficulty could be overcome, the prosperity of the Academy restored, and all possibility of the recurrence of similar troubles obviated. His aim was to place the Society on the highest plane of ethics, and at the same time rescue it from its present unfortunate condition; and as a preliminary step in his effort, he made a careful study of the constitution and by-laws of the great English Societies and of the Academy of Medicine in France. The amendments now offered were the result of much thought on his part, and he had drawn them up with no motive in view except the best interest of the Academy. It had seemed to him that those who had voted for the resolutions adopted at the last meeting (among whom were many of the hardest workers and most munificent benefactors of the Academy), would concur in the opinion that a solution of the

difficulty could thus be reached; but to his astonishment and sorrow he had found that his judgment was wrong.

Dr. Barker then took up the proposed amendments *seriatim*, and briefly pointed out his reasons for the changes which he desired to have made. The abolition of the Committees on Ethics and Medical Education, he stated, would relegate the subject of ethics to the Council and the whole Academy. As to the Committee on Medical Education, such a committee at the present day was entirely useless. In enacting the proposed substitute for Article VIII., the Academy would protect itself from improper members, and at the same time it would be a purely scientific body. To the last By-Law, providing for the alteration of By-Laws, was added a clause, the object of which, he explained, was to prevent, in all future time, the adoption of resolutions introduced by parties or cliques without due notice.

Dr. Austin Flint, Jr., then rose and said, that before the meeting every member knew just what these proposed amendments meant. One of them simply left the Academy of Medicine without a code of ethics, and this amendment necessitated certain changes in the rest of the Constitution and By-Laws to accommodate them to this new order of things. Everybody knew that it did not make the slightest possible difference what the Committee of the Whole said or did about the matter. It had no power whatever, and the amendments would, of course, have to take the regular course and lie over until the next stated meeting. When they come up at that time, those who were in favor of the National Code would vote against them, and those who were in favor of the New Code would vote for them, and that was all that there was about the question of the adoption of the amendments. It required a three-fourths vote to secure their passage, and this, he believed, was absolutely hopeless. Consequently, he considered their introduction as nothing more nor less than a firebrand which would only increase the difficulties under which the Academy now labored. He did not see the slightest necessity for talking any more about these amendments. It took two sides to make a discussion, and he sincerely trusted that no friend of the National Code would say one word about them. The only way was for each Fellow who believed in that code, to come to the next meeting and vote against their passage. In conclusion, Dr. Flint explained that he would not have spoken at all if the Chair had not overruled his motion, and decided that the amendment to go into the Committee of the Whole was in order.

Dr. Barker now proposed as an amendment to the resolution of Dr. Elsberg, who accepted it, the following:

"*Resolved*, That, in the opinion of the Committee of the Whole, it is advisable to adopt the amendments to the Constitution and By-laws which have been prepared, and that the Chairman be instructed to report at the next stated meeting of the Academy on the morning of October 18th."

After some discussion on parliamentary points, this resolution was adopted. A motion was then passed that the Committee of the Whole rise, report progress, and ask leave to sit again at the meeting of October 18th.

The Committee accordingly rose, and Chairman Eliot made his report, after which Dr. Flint renewed his original motion, that the amendments take the regular course, and lie over until the next meeting. This was unanimously carried, and the Academy then adjourned.

CORRESPONDENCE.

ON THE MAPPING OUT OF VISCERAL DISEASES, IN AN ANILINE COLOR, ON THE SURFACE OF THE BODY.

To the Editor of The Medical News.

Sir: I have now used for more than sixteen months, throughout my residency in the Episcopal Hospital, a method of mapping out on the superficies of the body, in an indelible aniline color, the results of a physical exploration of the condition beneath. The markings remain fresh and clear in many cases, and visible in almost all, from one to several weeks or longer, affording a most valuable means of making daily or weekly comparisons in diseases running their course or changing within that time. The Eagle copying leads, found in every stationery store, afford the most convenient means of using the color. The leads are sold in sticks three and a half inches long, and the points simply need to be dipped in water to be ready for use.

By thus mapping them out, pneumonias, pleurisies, peri- and endo-carditis, and many other thoracic and many abdominal diseases can be made instantly to speak for themselves in staring lines and letters, not only faithfully and continuously representing the exact condition of a case when first examined, but making a mental picture long retained.

The following will serve as an illustration: I visited A. M. at his house, and, finding that he had right apex pneumonia, admitted him to the ward. After a careful exploration of the chest, the point of the pencil was quickly dipped in water, and the whole upper part of the right chest cut off from that below by a broad purple line running from sternum to spine, following the lowest level at which bronchial breathing was heard.

Then above the line over the third rib in front were printed in large letters, **Fl. Bron. br. Broncoph.**, designating the whole area as *flat*, and that bronchial breathing and bronchophony were heard everywhere within its limits.

An inch and a half below this an interrupted line separated an area corresponding to the middle lobe, which was markedly congested, and the letters **D. Br. ves.** indicated dulness on percussion and broncho-vesicular breathing. The month and day were recorded along with these signs, and then from day to day changes were studied by this map as the standard of comparison, or further changes were noted and distinguished from the paler ink of the older markings. Complete failure resulted in a few cases of typhoid fever where there was profuse sweating.

It afforded great satisfaction in a case of acute articular rheumatism to hear the clipping pericardial friction-sound over the base of the heart, and, after recording by a dot of the pencil with the date alongside, to be able to trace the slightest change in position or number of points throughout the whole history of the case.

A hard, nodular, cancerous mass at the pylorus was felt well up under the diaphragm, and its most prominent point marked by a small cross, the next day another cross marked a fall, and so its movements were traced over a large part of the epigastrium by measurements made when the stomach was in all states of distention, the record graphically showing on the harsh, dry skin through weeks of illness, and remaining to speak for itself on the post-mortem table. The device is so simple and almost self-suggestive that I am not surprised to learn that others have used it in a more or less limited way; but, if I have not already been forestalled in attracting general attention by pub-

lication, I feel sure that so valuable an expedient will be generally adopted when known, especially by all who are engaged in class-demonstration, or in studying a large number of cases at one time.

A chest or abdomen so mapped is legible over the largest of our clinical amphitheatres, and when the patient is reintroduced, no student needs a more impressive picture to recall all the conditions of the case at the last séance.

Personally, it has saved me hours of laborious investigation in my ward-work, and I carry in mind a picture of cases of small pleuritic effusion along the spine in typhoid, represented in aniline by an undulating outline enclosing the letters Æg. (ægophony), which must long since have slipped my memory as particular cases, had I depended on the usual routine of examination and note-taking.

A few seconds daily serve for verification, and in this way a large number of cases can be intelligently and satisfactorily kept within the mental horizon at one time. Yours respectfully,

HOWARD A. KELLY, M.D.

323 SOUTH SEVENTEENTH STREET,
PHILADELPHIA.

CELSUS ON THE TREATMENT OF HYDROPHOBIA.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue for Oct. 6, there is a letter from Louis W. Atlee, M.D., taking me to task for a supposed slight to Celsus, in my recently published "Remarks on Hydrophobia." As the correction is founded on an assumption of your correspondent that I had not consulted the original writings of Celsus, I content myself, in regard to it, with pointing out that his assumption is erroneous.

But the fifth and sixth paragraphs of the letter referred to, charge me, by inuendo, with literary dishonesty. Of this I wish to say, that it is to be regretted that Dr. Atlee, who is an entire stranger to me, should have made an accusation which the smallest inquiry would have taught him was unfounded, and that, in his zeal for the "ethics" of Celsus, he should have forgotten what is demanded by the ethics of the present day. Yours truly,

CHARLES W. DULLES.

[We greatly regret that any paragraph should have appeared in our columns which, even by imputation, could be supposed to cast an imputation upon the literary methods of Dr. Dulles, whom we know to be a most painstaking and conscientious student. In this particular instance, too, it has happened to come within our knowledge that he took special pains to consult a large number of original authorities, and Celsus, we are informed, was among the number, in his research. —ED.]

THE SO-CALLED CONSTANTINOPLE PORRO OPERATION. A CORRECTION.

To the Editor of THE MEDICAL NEWS.

SIR: In several papers on the Porro operation, one case has been erroneously credited to Dr. Dallas, of Constantinople. A letter received from that city recently shows the operation to have been a utero-ovarian amputation in a case of intra-mural fibroid, with excessive floodings. There was no fœtus as reported (saved), but the woman, as stated, recovered. For such a condition we now perform the less dangerous operation of Battey, which we have seen produce a perfect cure, in the production of the menopause, and atrophy of the tumor.

Very respectfully,

ROBERT P. HARRIS, M.D.

NEWS ITEMS.

CINCINNATI.

(From our Special Correspondent.)

THE CINCINNATI HEALTH BOARD.—A great deal has been said of late by our local journals and newspapers about the inefficiency of our Health Board, and it certainly has the mark of inefficiency upon it. It has been the rule for a number of years that the City Council should elect a Board of Health, who in turn appointed a health officer. Dissatisfaction with this mode of caring for the sanitary interests of the city soon arose, and grew so strong that an attempt was made last spring to modify it. The Legislature enacted a law abolishing the Health Board, and providing for the appointment, by the Judges of the Superior Court, of a Health Commissioner, with a salary of $3000 annually, with full control of the sanitary department, and with power to appoint a large number of subordinates, including a Registrar of Vital Statistics, milk, meat, and market inspectors, district physicians, etc. But all this was offset by the refusal of the three Judges to perform the duty imposed upon them. The city was then left for several months without so much as a nominal Board of Health. During this time, however, Dr. D. D. Bramble, the health officer for the previous year, continued his services with the same energy and efficiency as before, and succeeded in freeing the city from smallpox—an end which it had been his aim to accomplish throughout his service. Then the Council decided that it was its duty to appoint a new Board of Health. Five saloon-keepers and a physician were their choice. The health officer appointed by this Board is not a physician, as has been customary, but a business man, with nothing to recommend him to the place but his promise to do his duty. The whole measure was confessedly a political one, and applicants for subordinate positions, even the district physicians, were made to profess allegiance to the ruling party before their applications were considered. Merit was a secondary qualification. That the present Board is illegal is, however, unquestionable, for the law abolishing such a body still exists, and it is probable that an attempt will be made during the coming winter to remodel the Act of the Legislature so as to have the appointing power placed in the hands of officers who will use it. This brief account, though of not much importance in itself, serves to show the need in our State of a more efficient means of providing for the health of its people, and at the same time the difficulty that stands in the way of all attempts in that direction.

Fortunately, we have not suffered from any lack of protection, for the city has been remarkably healthy during the past summer, and could have gotten along very well with no Health Board at all. The mortality report for the week ending October 6, shows 88 deaths, or 16.39 per 1000, per annum. This is a lower rate than at this season for several years. Of these 88 deaths, 25 were infants under one year of age, and 9 were 60 or upwards. Three were from diphtheria, the only contagious disease reported.

A CHILDREN'S HOSPITAL was opened on Monday of this week, with a capacity of thirty beds. It is the charity of a number of wealthy and benevolent gentlemen. The institution is in charge of Dr. F. Forchheimer, Professor of Physiology and Children's Diseases in the Medical College of Ohio, and it is to his energy that its origin is largely due. He will be assisted by Drs. W. S. Christopher and Robert Stewart. Dr. Ed. W. Walker is the Surgeon, and Dr. W. W. Seely the Ophthalmologist. The building occupied

was formerly a residence, but has been thoroughly remodelled. A wing to be used as a mortuary is now building. This is the first hospital for children exclusively, that we have had. It is located in the most populous part of the city, where it is likely to do the most good. None but children under twelve years and infants will be admitted, and no contagious diseases will be treated.

The Cæsarean Section was performed recently at the Good Samaritan Hospital by one of the resident physicians, Dr. Edwin W. Ludlow. The patient was a woman, dying of phthisis pulmonalis, in the last month of pregnancy. A living child was extracted, but owing to its emaciated condition it lived but an hour.

CANADA.

(From our Special Correspondent.)

Quebec Medical Board.—The semi-annual meeting of the College of Physicians and Surgeons of the Province was held in Quebec on the 26th ult., Dr. Ternieux, President, in the chair.

Sixteen candidates for the license presented University degrees, and obtained the license without examination. Four candidates were examined, of whom three were rejected. The matriculation examiners reported that forty-nine candidates had presented themselves, of whom only nineteen passed, and were thereby qualified to enter upon the study of medicine.

A discussion took place on the causes of the high percentage of rejection at the preliminary examination, and a committee was appointed to confer with the masters of the high schools and seminaries, in order that a more suitable system of training should be given to pupils preparing for the examination.

Opening of the Schools.—The introductory lecture of McGill Medical Faculty was given by Dr. Workman, of Toronto, the oldest, save one, living graduate of the school, and a hale, active octogenarian. After the lecture, a conversazione was held in the Redpath Museum. The recently appointed Professors, Drs. Shepherd, Gardner, Browne, and Stewart, gave special introductory lectures to their classes on the 2d. Prof. Penhallow, late of Tokio University and of the Haughton Experimental Farm, is conducting the botany class in the Medical School during the absence in Europe of Principal Dawson.

The Montreal School of Medicine (French) reassembled on the 2d, when Dr. D'Orsonneus, the President, delivered the inaugural address, in which he reviewed the troubles of the school, and congratulated the members that they had been successful in their struggle with Laval.

The Kingston School of Medicine for Women opened on the 2d, when Dr. Lavell addressed the students. Three scholarships have been founded, and the prospects of the school as a separate institution are good. A guarantee fund of $7000 has been raised.

The Ravages of Yellow Fever in Mexico and Panama. — Surgeon Main, of the Marine-Hospital Service at Brownsville, Texas, reports to the Surgeon-General the following items brought by the latest Pacific mail: At Mazatlan, Mexico, yellow fever is still the reigning terror. Every house is a hospital. It is impossible to keep track of the deaths, which run into the hundreds daily. The inhabitants are fleeing in every direction.

Later reports from Brownsville state that yellow fever is still raging in Mexico, and that it is said to be travelling northward up the California Gulf; and that President Gonzales, in a recent message to Congress, referring to the unhealthy condition of the Capitol, said that a loan of $2,000,000, with which to improve the sanitary condition of Mexico, had been recommended.

The latest advices received from Mazatlan were dated September 16. At that time there were two thousand people sick, some of whom were dying of yellow fever, and others for want of attention or on account of a prevailing famine. The advices referred to stated that there were only two inexperienced doctors in the city, and they were worn out from overwork. At Manzille, the report says, "cartloads of dead bodies have been buried in one common receptacle."

Yellow fever has existed in Panama since April, but almost exclusively among the natives. It has recently become more pernicious, and is now spreading widely. It has made its appearance in the below-named Pacific coast cities: San José, Costa Rica, Nicaragua, Acapulco, Zucatula, Manzanillo, Corrientes, and San Blas; and is spreading northward.

At Guayamas so many are down with the fever that many die from want of attendance. The dead are buried by the cartload by Indians. At Hermosillo the fever death-rate is about twenty daily.

Surgeon-General Hamilton, of the Marine-Hospital Service, has telegraphed the collector at Yuma, Ariz., to appoint sanitary inspectors at that place and at Benson to inspect trains arriving from the south. This action has been taken because of information received from the Governor of Arizona that a soldier at Huachaca, in that Territory, had died of yellow fever recently.

A recent report from Guayamas, dated September 22, states that yellow fever, or malignant coast fever, still continues there, and has been particularly fatal to Americans in the employ of the railway company. A report to the State Department from the United States Consul at Mazatlan, September 12, says that the port is infected with yellow fever, and that all vessels leaving it for the United States refuse to receive passengers, and have no communication with the port.

A telegram from Guayamas, under date of October 3, states that there have been only three deaths in the last two days. Twenty-six deaths are reported from Hermosillo, and all along the road are victims who have been overtaken with the fever and who are unable to proceed further. News received from the Yaqui River reports that the fever is spreading among the Indians. A letter received here announces the death of two of the party which left here in August to survey the Tocolovampo Railroad. No names were given.

Despatches from Las Vegas, N. M., of Oct. 9, state that more yellow fever refugees have arrived there. They say the half has not been told about the horrors of the scourge at Guayamas and Hermosillo.

Yellow Fever in Alabama.—Reports from Brewton, Ala., give two deaths since the 3d inst, and thirteen cases under treatment. The physicians there are of the opinion that it is hemorrhagic malarial fever, but pressure is so strong that the neighboring towns are quarantined, and trains are ordered to go through Brewton without stopping.

Yellow Fever at Pensacola.—A telegram from Commandant Welch, at the Pensacola Navy Yard, dated 6th inst., states that three new cases of yellow fever have appeared, and one death has taken place. It has been intensely hot for a week past. There was also one new case and one death in Warrington from the fever.

Yellow Fever at Ship Island Quarantine Station.—The surgeon in charge of the quarantine station

at Ship Island reports that during the week ending September 29th, there were eleven cases of yellow fever and three deaths at that station.

QUARANTINE IN SAN FRANCISCO.—The passengers on board the yellow fever steamer "Newbern," in the harbor of San Francisco, have been permitted to come ashore, with the exception of two patients and a nurse. All danger to the city from yellow fever may now be said to have passed.

QUARANTINE AT NEW ORLEANS.—In accordance with a recommendation of the Board of Health of New Orleans, the Governor has issued a proclamation withdrawing the quarantine proclamation heretofore issued, to take effect November 1st. After October 15th, vessels from infected ports will be detained not less than three days for disinfection.

SMALLPOX IN NEW ORLEANS.—For the week ending September 22, there were ten deaths from smallpox in New Orleans.

QUARANTINE AT MOBILE.—Recent despatches state that quarantine was established at Mobile, on Oct. 9th.

PLEURO-PNEUMONIA IN PENNSYLVANIA.—Information has been received by the Secretary of the State Board of Agriculture, that pleuro-pneumonia has broken out among the cattle of Lehigh County.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.—Forty names were enrolled in membership in the new medical society formed in the rooms of the New Academy of Medicine, New York, Sept. 25th.

The name chosen was "The American Climatological Association," and its objects were stated to be the study of diseases of the respiratory organs, together with the influence of climate thereon.

A committee consisting of Drs. Tyndale, New York; Bruen, of Philadelphia; and Garland, of Boston, was authorized to act temporarily as a Board of Censors, and to draft a constitution and by-laws, and submit the same to the next meeting.

The following officers were elected:

President.—A. L. Loomis, New York.

First Vice-President.—F. J. Knight, Boston.

Second Vice-President.—W. H. Geddings, Arkansas.

Secretary and Treasurer.—J. B. Walker, Philadelphia.

It was decided to hold the annual meeting in 1884 at Washington either immediately before or after the meeting of the American Medical Association, and the following were appointed a Committee of Arrangements: Dr. Garnett. Washington, Chm.; Drs. Donaldson, Baltimore; Bosworth, New York; Shurley, Detroit; J. C. Wilson, Philadelphia.

With bright auspices for a live, active, and most useful organization, the new Association starts on its career.

HARVARD MEDICAL SCHOOL.—On Wednesday next, Harvard Medical School will celebrate its Centennial Anniversary and will dedicate its new building. The celebration will consist in an address by the President of the University, an oration by Emeritus Professor Oliver Wendell Holmes, and the presentation of a portrait of Prof. Holmes and a bust of Prof. Henry J. Bigelow. Subsequently the new building will be dedicated.

HEALTH OF CONNECTICUT.—The report of the Secretary of the State Board of Health, for August, states that the prevalence of typhoid fever is the most important element in the sanitary history of the month, when the relative prevalence of this type of disease and malarial diseases are considered. A few years ago scarcely a case was reported from the malarial region; now the cases begin to exceed the malarial, and in places like Manchester, where the two types exist together, the influence is seen in the prevalence of typho-malarial fever. Two fatal cases of this form are reported from South Manchester, and several cases of typhoid fever. The use of a small stream for the disposal of sewage, which is obstructed by numerous dams, thus causing beds of deposits, which from the natural effects of the dry season must have been more or less uncovered and exposed to the sun, furnishes favorable conditions for the causation of typho-malarial fever. This has been repeatedly illustrated in different places. These same agencies would favor the spread of typhoid fever were the malarial influence wanting. The general decrease in the prevalence of malaria and the malarial influence upon other diseases is very marked in a large part of the territory where they have been for quite a long period the governing type. With a few exceptions, which tend to strengthen the idea that there must be some local causes to induce the unusual prevalence, he did not learn of any general activity in the progress or spread of malaria. While there is a much greater prevalence and a more marked influence over other diseases in the northeasterly frontiers of the region that has already been invaded by malaria, there is no such decided prevalence as exists in the region about Manchester. As has been stated, acute-intermittent is very common, and both typho-malarial and malarial fevers exist. In the present uncertainty as to the ultimate nature of malaria, all such manifestations are of peculiar interest.

The cases reported from Hampton this month and previously, were imported by a gang of Italian laborers. A few cases of typho-malarial are reported in August, also typhoid fever, the latter indigenous.

The prevalence of typhoid fever is noticeable in Waterbury; from New Hartford, Thomaston, and several places in Litchfield County; from a part of Killingly and from several towns in Windham County. More or less cases of typhoid fever are reported also from different parts of every county.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 29, 1883, indicate that neuralgia, pneumonia, and remittent fever have increased, and that diarrhœa, consumption, influenza, and inflammation of the brain have decreased in area of prevalence.

Including reports by regular observers and others, diphtheria was reported present during the week ending September 29, and since, at twenty places, namely, Clarence, Coldwater, Coopersville, Detroit, Ensley, Grand Rapids, Hillsdale, Ida, Lansing, Lowell, Mt. Pleasant, Monroe, Nashville, Newberry, Niles, Polkton, Quincy, Houghton County, Reading, Somerset, and Utica. Scarlet fever at twenty-one places: Bingham, Belvidere, Coopersville, Detroit, East Jordan, Fenton, Grand Haven, Grand Rapids, Ithaca, Kalamazoo, Lansing, Lowell, Ludington, Manistee, Middleville, Monroe, Morenci, Nashville, Polkton, Tyrone, and Whitehall. Measles at four places: Charlevoix, Detroit, Monroe, and Somerset.

OBITUARY RECORD.—SURGEON-GENERAL CHARLES H. CRANE, U. S. Army, died in Washington, D. C., on Wednesday, October 10th, of hemorrhage of the throat, after a brief illness. He was born in Rhode Island, in 1826, and was appointed to the Medical Department of the Army from Massachusetts in February, 1848. He was promoted to the rank of Surgeon in May, 1861, and to the position of Assistant Surgeon-General on July 28, 1866. His appointment to the position of Surgeon-General was confirmed by the Senate in August, 1882.